

THIRTEENTH BIENNIAL REPORT
OF THE
NORTH CAROLINA STATE BOARD OF HEALTH

1909-1910

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THIRTEENTH BIENNIAL REPORT

OF THE

NORTH CAROLINA

STATE BOARD OF HEALTH

1909-1910

RALEIGH

EDWARDS & BROUGHTON PRINTING CO., STATE PRINTERS

1911

Members

G. G. THOMAS, M.D., *Pres.*, Wilmington.

THOMAS E. ANDERSON, M.D., Statesville.

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*J. A. BURROUGHS, M.D., Asheville.

J. L. LUDLOW, C.E., Winston-Salem.

RICHARD H. LEWIS, M.D., Raleigh.

*Deceased. Succeeded by J. E. Ashcraft M.D., Monroe.

County Superintendents of Health

Alamance	Dr. G. W. Long	Graham.
Alexander	Dr. O. L. Hollar	Taylorsville.
Alleghany	Dr. B. O. Choat	Sparta.
Anson	Dr. J. M. Covington	Wadesboro.
Ashe	Dr. J. C. Testerman	Jefferson.
Beaufort	Dr. P. A. Nicholson	Washington.
Bertie	Dr. J. L. Pritchard	Windsor.
Bladen	Dr. L. B. Evans	Clarkton.
Brunswick	Dr. J. A. Doshier	Southport.
Buncombe	Dr. D. E. Sevier	Asheville.
Burke	Dr. I. W. Phifer	Morganton.
Cabarrus	Dr. J. W. Wallace	Concord.
Caldwell	Dr. C. L. Wilson	Lenoir.
Camden	Dr. C. G. Ferebee	Gregory.
Carteret	Dr. W. E. Headen	Morehead City.
Caswell	Dr. S. A. Malloy	Yanceyville.
Catawba	Dr. H. E. Rowe	Newton.
Chatham	Dr. L. E. Farthing	Pittsboro.
Cherokee	Dr. J. F. Abernethy	Murphy.
Chowan	Dr. H. M. S. Cason	Edenton.
Clay	Dr. J. M. Sullivan	Hayesville.
Cleveland	Dr. T. E. McBrayer	Shelby.
Columbus	Dr. H. B. Maxwell	Whiteville.
Craven	Dr. J. F. Rhem	New Bern.
Cumberland	Dr. W. S. Jordan	Fayetteville.
Currituck	Dr. H. M. Shaw	Shawboro.
Dare	Dr.	
Davidson	Dr. E. J. Buchanan	Lexington.
Davie	Dr. M. D. Kimbrough	Mocksville.
Duplin	Dr. T. O. Coppedge	Kenansville.
Durham	Dr. N. M. Johnson	Durham.
Edgecombe	Dr. S. P. Bass	Tarboro.
Forsyth	Dr. J. K. Pepper	Winston.
Franklin	Dr. J. E. Malone	Louisburg.
Gaston	Dr. N. L. Glenn	Gastonia.
Gates	Dr. G. D. Williams	Gatesville.
Graham	Dr. M. T. Maxwell	Robbinsville.
Granville	Dr. S. D. Booth	Oxford.
Greene	Dr. W. B. Murphy	Snow Hill.
Guilford	Dr. A. T. Fortune	Greensboro.
Halifax	Dr. I. E. Green	Weldon.
Harnett	Dr. L. F. Arnold	Lillington.
Haywood	Dr. J. R. McCracken	Waynesville.
Henderson	Dr. J. G. Waldrop	Hendersonville.
Hertford	Dr. J. H. Mitchell	Ahoskie.
Hyde	Dr. R. E. Windley	Lake Landing.

Iredell	Dr. M. R. Adams	Statesville.
Jackson	Dr. A. S. Nichols	Sylva.
Johnston	Dr. A. H. Rose	Smithfield.
Jones	Dr. A. F. Hammond	Pollocksville.
Lee	Dr. J. P. Monroe	Sanford.
Lenoir	Dr. N. A. Whitaker	Kinston.
Lincoln	Dr. J. W. Saine	Lincolnton.
McDowell	Dr. Guy S. Kirby	Marion.
Macon	Dr. S. H. Lyle	Franklin.
Madison	Dr. W. J. Weaver	Marshall.
Martin	Dr. W. E. Warren	Williamston.
Mecklenburg	Dr. C. S. McLaughlin	Charlotte.
Mitchell	Dr. V. R. Butt	Bakersville.
Montgomery	Dr. C. Daligny	Troy.
Moore	Dr. Gilbert McLeod	Carthage.
Nash	Dr. J. P. Battle	Nashville.
New Hanover	Dr. W. D. McMillan	Wilmington.
Northampton	Dr. H. W. Lewis	Jackson.
Onslow	Dr. Cyrus Thompson	Jacksonville.
Orange	Dr. C. O. Jones	Hillsboro.
Pamlico	Dr. D. A. Dees	Bayboro.
Pasquotank	Dr. H. T. Aydlett	Elizabeth City.
Pender	Dr. R. H. Bradford	Burgaw.
Perquimans	Dr. T. S. McMullen	Hertford.
Person	Dr. W. T. Long	Roxboro.
Pitt	Dr. W. M. Fountain	Greenville.
Polk	Dr. Earl Grady	Tryon.
Randolph	Dr. J. V. Hunter	Asheboro.
Richmond	Dr. W. P. Webb	Rockingham.
Robeson	Dr. W. A. McPhail	Lumberton.
Rockingham	Dr. Samuel Ellington	Wentworth.
Rowan	Dr. M. L. Smoot	Salisbury.
Rutherford	Dr. E. B. Harris	Rutherfordton.
Sampson	Dr. A. M. Cooper	Clinton.
Scotland	Dr. Peter McLean	Laurinburg.
Stanly	Dr. J. F. Laton	Albemarle.
Stokes	Dr. J. W. Neal	Walnut Cove.
Surry	Dr. J. R. Woltz	Dobson.
Swain	Dr. A. M. Bennett	Bryson City.
Transylvania	Dr. Goode Cheatham	Brevard.
Tyrrell	Dr. J. L. Spruill	Columbia.
Union	Dr. H. D. Stuart	Monroe.
Vance	Dr. E. F. Fenner	Henderson.
Wake	Dr. J. J. L. McCullers	McCullers.
Warren	Dr. M. P. Perry	Macon.
Washington	Dr. W. H. Ward	Plymouth.
Watauga	Dr. H. McD. Little	Boone.
Wayne	Dr. T. M. Bizzell	Goldsboro.
Wilkes	Dr. E. M. Hutchens	North Wilkesboro.
Wilson	Dr. W. S. Anderson	Wilson.
Yadkin	Dr. T. R. Harding	Yadkinville.
Yancey	Dr. W. B. Robertson	Burnsville.

Letter of Transmittal

NORTH CAROLINA STATE BOARD OF HEALTH,
OFFICE OF THE SECRETARY,
RALEIGH, N. C., August 3, 1911.

His Excellency, W. W. KITCHIN,

Governor of North Carolina.

SIR:—Under the authority of Section 4437 of The Revisal of 1905, I have the honor to submit the Biennial Report of the State Board of Health for the years 1909 and 1910.

In making this report I desire to express the sincere appreciation of the State Board of Health for your deep interest in the fundamental question of public health, for the strong recommendation for the increase in the State appropriation for this purpose contained in your last message to the Legislature, and for your cordial co-operation unstintedly given at all times in assisting us in dealing with public health situations of peculiar interest.

Very respectfully yours,

W. S. RANKIN,
Secretary and Treasurer.

Legislation by General Assembly of 1909

Chapter 389.

AN ACT TO PROVIDE DIPHTHERIA ANTITOXIN FOR INDIGENT PERSONS SICK OF DIPHTHERIA.

The General Assembly of North Carolina do enact:

SECTION 1. That the North Carolina Board of Health is hereby authorized and directed to arrange for a sufficient supply of diphtheria antitoxin for the treatment therewith, free of charge, of indigent persons sick of diphtheria, and for immunizing against infection such indigent persons as may be exposed to the disease, and to extend the facilities for making the diagnosis of the disease.

SEC. 2. That the said board of health shall keep on hand in the State Laboratory of Hygiene a supply of reliable diphtheria antitoxin, and shall distribute, through the said laboratory, to the several counties of the State, whenever the boards of county commissioners thereof shall request it, and shall notify the Secretary of the State Board of Health that they will pay for the same upon presentation of a bill, and shall designate the person or persons with whom it shall be deposited. The antitoxin shall be furnished at the lowest figure obtainable for a reliable preparation.

SEC. 3. That whenever a physician is called to a case of diphtheria in an indigent person or one in immediate need and unable to pay for antitoxin, he may obtain the same from one of the depositories or diphtheria stations by filling out and signing in duplicate the blank requisition form to be supplied with the antitoxin by the said board of health, and presenting the same to the county superintendent of health or any member of the county sanitary committee, or to such person as the said county sanitary committee may appoint, who, after satisfying himself as to the indigency of the person or persons for whom the antitoxin is intended, shall approve and countersign in duplicate the requisition. The person dispensing the antitoxin shall retain one copy of the requisition and shall mail the duplicate promptly to the director of the laboratory of hygiene. He shall also return to the said director all packages of antitoxin in his possession as soon as they become out of date.

SEC. 4. The provisions of this act shall apply to cities and towns upon the same conditions as it does to counties.

SEC. 5. That for carrying out the provisions of this act the sum of five hundred dollars annually is hereby appropriated.

SEC. 6. That this act shall be in force from and after its ratification.

Ratified this the 26th day of February, A. D. 1909.

Chapter 722.

AN ACT TO PROVIDE FOR THE REGISTRATION OF DEATHS IN MUNICIPALITIES OF ONE THOUSAND POPULATION AND OVER IN THE STATE OF NORTH CAROLINA.

The General Assembly of North Carolina do enact:

SECTION 1. That all deaths that occur in cities or towns having a population of one thousand or over by the last preceding federal census shall be registered by the clerks or other officials designated by the board of aldermen or town com-

missioners thereof, who are hereby constituted local registrars of deaths, within three days after the occurrence of said deaths and before the bodies are removed, interred or otherwise disposed of: *Provided*, that in cities or towns now having satisfactory registration of deaths under their ordinances the health officer or other official now acting as local registrar shall continue as such, but shall conform to the provisions of this act and to the regulations of the State Board of Health adopted thereunder.

SEC. 2. That a certificate of death, of standard form, provided by the State Board of Health, shall be filed with the local registrar by the undertaker or other person in charge of the removal, interment or other disposal of the body of the deceased person, and a permit shall be issued by said local registrar for such removal, interment or other disposal of the body only after such certificate of the cause of death, signed by the attending physician, or, in case there shall be no attending physician, by the health officer, or, in case there is no health officer of the city or town, by the local registrar, who shall give the medical cause of death, as nearly as he can determine it, after full inquiry, in regard thereto, of the householder in whose family the death occurred: *Provided*, that under no circumstances shall the local registrar sign the death certificate when there has been an attending physician or there is a municipal health officer. No sexton or superintendent of a cemetery in cities and towns having a population of one thousand or over shall permit interment, and no railway company or other common carrier shall transport a body of a deceased person whose death occurred in this State unless accompanied by the local registrar's permit.

SEC. 3. That the local registrar shall number each certificate as received, record it in a local register of deaths, and promptly by the fifth day of the following calendar month send all of the original certificates to the secretary of the State Board of Health, at Raleigh, who is hereby constituted State Registrar of Vital Statistics. The said registrar, with the approval of the State Board of Health, shall maintain in his office a bureau of vital statistics, preserve, index and compile the original returns, and make copies thereof for legal or other purposes, as may be necessary, which copies, when officially certificated, shall be *prima facie* evidence of the facts therein set forth, in all the courts of the State, for all purposes of this act. The State registrar shall prepare and distribute all blanks and instructions necessary for the execution of this act, and shall see that the provisions of this act are faithfully enforced; and the solicitors of the several districts and the Attorney-General shall aid him, upon his request, and enforce the penalty of the law, in case of its violation. Each of the said local registrars shall be entitled to a fee of twenty-five cents for his service, under this section, to be paid by the city or town.

SEC. 4. That any undertaker, sexton or superintendent of a cemetery, agent of a transportation company, local registrar or other person who violates the provisions of this act, and any attending physician who fails or neglects to certify to the cause of death when the certificate is presented to him for the purpose, and every local registrar who shall neglect to perform any of the duties required of him by section three of this act shall be guilty of a misdemeanor, and upon conviction thereof shall be liable to a fine of not less than five nor more than fifty dollars or imprisonment for not less than ten nor more than thirty days, and shall also be liable to a penalty of twenty-five dollars in favor of any person who shall sue for the same.

SEC. 5. The mayor of each city or town of one thousand or more inhabitants

shall be responsible for the enforcement of this act in his jurisdiction. Failure on his part to so enforce its provisions shall be a misdemeanor, and he shall be liable to a fine of not less than ten nor more than fifty dollars: and it shall be the duty of the solicitor of the judicial district in which the city or town is situate, upon complaint of the State registrar or of the secretary of the State Board of Health, to institute a criminal action for the enforcement of said fine.

SEC. 6. That this act shall be in force from and after its ratification.

Ratified this the 6th day of March, A. D. 1909.

Chapter 793.

AN ACT TO AMEND SECTIONS 3045, 3058, 3457, 4440, 4442, 4444, 4457, 4460 AND 4508 OF THE REVISAL OF 1905, RELATING TO THE PUBLIC HEALTH.

The General Assembly of North Carolina do enact:

SECTION 1. That section three thousand and forty-five of The Revisal of one thousand nine hundred and five be amended by inserting after the word "method," in line twenty-eight, the words "scope and detail," and by adding at the end of said section three thousand and forty-five the following: "Full reports, in duplicate, of all such inspections shall be made promptly to the secretary of the State Board of Health and their accuracy certified by the affidavit of the inspector or such officer or person as the said secretary may direct."

SEC. 2. That section three thousand and fifty-eight of said Revisal be amended by adding thereto, as subsections (a), (b) and (c), the following:

"(a) The State Board of Health shall have the general care and oversight of all inland waters, and shall, from time to time, as it may deem advisable, cause examinations of said waters and their sources and surroundings to be made, for the purpose of ascertaining whether the same are adapted for use as water supplies for drinking and other domestic purposes or are in a condition likely to impair the interests of the public or of persons lawfully using the same, or to imperil the public health. For the purpose aforesaid it may employ such expert assistance as may be necessary. The said board shall make such rules and regulations as in its judgment may be necessary to prevent contamination and to secure such purification as may be required to safeguard the public health. Any individual, firm, corporation or municipality, or the person or persons responsible for the management of the water supply, failing to comply with said rules and regulations shall be guilty of a misdemeanor, and upon conviction shall be fined or imprisoned, or both, at the discretion of the court.

"(b) The said board shall from time to time consult with and advise the boards of directors of all State institutions, the authorities of cities and towns, corporations or firms already having or intending to introduce systems of water supply, drainage or sewerage as to the most appropriate source of supply, the best practical method of assuring the purity thereof or disposing of their drainage or sewage, having regard to the present and prospective needs and interests of other cities, towns, corporations or firms which may be affected thereby. All such boards of directors, authorities, corporations and firms are hereby required to give notice to said boards of their intentions in the premises, and to submit for its advice outlines of their proposed plans or schemes in relation to water supply and

disposal of sewage; and no contract shall be entered into by any State institution, city or town for the introduction of a system of water supply or sewage disposal until said advice shall have been received, considered and approved by said board. Violation of the provisions of this subsection (b) shall be a misdemeanor, and upon conviction those responsible therefor by neglect of duty shall be fined not less than fifty dollars nor more than two hundred dollars, at the discretion of the court.

"(c) That for the purpose of carrying out the general provisions of the said section three thousand and fifty-eight, as set forth in subsections (a) and (b), every municipal or private corporation, company or individual supplying or authorized to supply water for drinking or other domestic purposes to the public shall file with the secretary of the State Board of Health, within ninety days after receipt of notice from said secretary, certified plans and surveys, in duplicate, pertaining to the source from which the water is derived, the possible sources of infection thereof, and the means in use for the purification thereof, in accordance with the directions to be furnished by the said secretary. Failure to file said plans and surveys, as required in this subsection (c), shall be a misdemeanor, and upon conviction those responsible therefor by neglect of duty imposed thereby shall be fined not less than fifty nor more than one hundred dollars, at the discretion of the court; and every delay of one calendar month after the expiration of the said ninety days shall be a separate offense."

SEC. 3. That section three thousand four hundred and fifty-seven of said Revisal be amended by adding thereto as subsection (a) the following:

"(a) That for any violation of this section or of the laws relating in any way to the public health it shall be the duty of the solicitors of the several judicial districts, upon complaint of the board of health, or of any of its officers, or of any individual injured or likely to be injured, to institute a criminal action against the person, firm, corporation or municipality charged with such violation in their respective districts, and prosecute the same."

SEC. 4. That section four thousand four hundred and forty of said Revisal be amended by striking out all after the heading and substituting in lieu thereof the following: "The State Board of Health shall have a president, a secretary (who shall also be treasurer) and an executive committee, said executive committee to have such powers and duties as may be assigned it by the board of health. The president shall be elected from the members of the board and shall serve six years. The secretary-treasurer shall be elected from the registered physicians of the State and shall serve six years. The executive committee shall be composed of the president and the engineer member of the board, *ex officio*, and one other member of the board, to be elected from those composing it. The executive office of the board shall be in the city of Raleigh and the secretary shall reside there. The secretary shall be the executive officer of the board, and shall, under its direction, devote his entire time to public health work and shall be known as the State Health Officer. He shall receive for his services such yearly compensation as shall be fixed by the board, not to exceed three thousand dollars and his actual traveling and hotel expenses when engaged in the work of the board. The board may in its discretion elect as a special assistant to the State Health Officer, for the anti-tuberculosis work, the Secretary of the State Association for the Prevention of Tuberculosis, at an annual salary not to exceed six hundred dollars. The members of the board shall receive no pay, except that each member shall receive four dollars a day and necessary traveling and hotel expenses when on actual duty

in attending the meetings of the board or of the executive committee or in pursuing special investigations in the State; but when attending important sanitary meetings beyond the limits of the State, the number of delegates thereto being limited to one, in addition to the secretary, only actual traveling and hotel expenses shall be allowed. These sums shall be paid by the treasurer on authenticated requisition, approved and signed by the president."

SEC. 5. That section four thousand four hundred and forty-two of said Revisal be amended by adding thereto the following: "The executive committee shall meet at such time as the president of the board may deem necessary, and he shall call such meetings through the secretary."

SEC. 6. That section four thousand four hundred and forty-four of said Revisal be amended by adding thereto the following: "*Provided*, that if the sanitary committee of any county shall fail to elect a county superintendent of health within two calendar months after the time set in section four thousand four hundred and forty-one of said Revisal for such election, the State Board of Health shall appoint a registered physician of good standing, resident in the said county, who shall serve the remainder of the regular two-year term, and shall fix his compensation, to be paid by the said county, in proportion to the salaries paid by other counties for the same service, having in view the amount of taxes collected by the said county."

SEC. 7. That section four thousand four hundred and fifty-seven of said Revisal be amended by striking out, in line two, the word "two" and inserting in lieu thereof the word "six."

SEC. 8. That section four thousand four hundred and sixty of said Revisal be amended by adding thereto as subsection (a) the following:

"(a) Any householder in whose family there is to his knowledge a person sick of cholera or typhoid fever, who shall permit the bowel discharges of such sick person to be emptied without first having disinfected them according to instructions to be obtained from the attending physician or the county superintendent of health, shall be guilty of a misdemeanor, and upon conviction shall be fined not less than two nor more than twenty-five dollars or imprisoned not less than ten nor more than thirty days. In cases where such undisinfected discharges are emptied on the watershed of any stream or pond furnishing the source of water supply for any public institution, city or town, the penalty shall be a fine of not less than twenty-five nor more than fifty dollars or imprisonment for not more than thirty days. And any physician attending a case of cholera or typhoid fever who refuses or neglects to give the proper instructions for such disinfection as soon as the diagnosis is made shall be deemed guilty of a misdemeanor, and upon conviction shall be fined not less than ten nor more than fifty dollars."

SEC. 9. That section four thousand five hundred and eight of said Revisal be amended by inserting after the word "mention," in line eight, the words "or of tuberculosis or typhoid fever."

SEC. 10. That this act shall be in force from and after its ratification.

Ratified this the 8th day of March, A. D. 1909.

CHANGES IN PERSONNEL OF BOARD.

In amending section 4440 of The Revisal of 1905 the General Assembly of 1909 greatly benefited the cause of public health. This amendment increased the appropriation for the Board from \$2,000 to \$6,000, thereby, making it possible to further amend this section by requiring the entire time of the executive officer of the Board to be devoted to the public health work of the State.

In securing the favorable consideration of the General Assembly for this extension of the work of the Board, former Secretary Dr. Richard H. Lewis was chiefly instrumental. The act, by requiring the entire time of the Secretary, made it necessary for the father of the bill to culminate seventeen years of patriotic devotion to the State's greatest asset, the health of her people, in his own official self-sacrifice. Along the trail that this pioneer sanitarian blazed through discouragement, superstition and incredulity, his followers will endeavor to propel, with the force of public opinion awakened to its civic obligations in the prevention of unnecessary death, the life saving legislation of the future.

On March 30, 1909, the State Board of Health met in a called meeting in the office of the Secretary, at Raleigh. Dr. Lewis then explained the amended law which required the executive officer to devote his entire time to the work of the Board. After stating that he could not afford to surrender his practice, he tendered his resignation as Secretary. The Board, after insisting in vain upon the withdrawal of the resignation, reluctantly accepted it. Dr. W. S. Rankin, of Wake Forest, was elected to succeed Dr. Lewis. The present incumbent took charge of his duties July 1, 1909.

Another change in the personnel of the Board was caused by the untimely death of Dr. James A. Burroughs, of Asheville, on December 28, 1909. Dr. James E. Ashcraft, of Monroe, was elected by the Board at Wrightsville on June 22, 1909, to fill the vacancy made by the death of Dr. Burroughs. Colonel J. L. Ludlow, of Winston-Salem, whose term of office expired in May, 1909, was reappointed by the Governor.

POLICY AND DUTIES OF STATE BOARD OF HEALTH.

In pursuance of the policy inaugurated by his predecessor, the present Secretary has recognized the functions of the Board of Health as executive and advisory or educational. Of the two duties the last is of first importance. Even the enactment of law, and much more the execution of law, is dependent upon an approving public sentiment, and public sentiment is the direct offspring of education. The Earl of Derby was therefore correct in saying, "Sanitary instruction is even more important than sanitary legislation."

With the great amount of indifference to the enforcement of sanitary laws on the part of the people, public health education, carried on through all available agencies, press, special literature and platform, is the most urgent, important and gigantic task of the Board. Neverthe-

less, the will of the people as expressed through their representatives makes the executive duties of the Board mandatory, and for this reason they will be first considered.

Executive Functions of Boards of Health.

DIFFERENCE IN PRINCIPLE OF STATE AND LOCAL HEALTH LAWS.

The executive function of the State Board of Health consists in seeing to the enforcement of all State health laws, with the exception of the Food and Drug Act. Health laws are and always will be divisible into State and local laws—municipal and county health laws.

State health laws should control all those conditions affecting the public health that are not limited to the jurisdiction of counties; that is, that are *inter* rather than *intra*-county concerns. Those conditions that affect the public health and that conform to this principle are sanitary control of watersheds, the law requiring the registration of deaths, the sanitary supervision of State institutions and the enforcement of quarantine.

The reasons for this are perfectly clear. The only available water supply of a town may be taken from a river that flows through another county before reaching the one in which the town supplied is located. Under such conditions, the necessary, just and only protection of the purity of such water supply must be furnished by the State. The same thing holds true for the law requiring the registration of deaths. If each county had its own system of death registration, there would be no uniformity, and, for comparison (and this is the only value of statistics), the records would be almost worthless. The sanitary supervision of State institutions that care for the afflicted and criminal, not of one county but of the entire State, should be, as it is, under State control.

A GRAVE DEFECT IN THE STATE HEALTH LAWS.

Contagion is no respecter of county boundaries, and the law controlling the prevalence of contagious diseases should be enforceable through State officials. Right here is one of the most serious defects in the health laws of our State. At present quarantine, that is, the control of contagious diseases, is entirely within the jurisdiction of the county superintendent of health. An inefficient county superintendent of health, elected and retained in office by a responsible board of county commissioners, may neglect or refuse to quarantine or disinfect until an epidemic in his county spreads and involves other contiguous and even distant counties. In this way it is in the power of a board of county commissioners to permit their county to become a hotbed for the dissemination of disease, a public nuisance, and an expensive neighbor to sister counties and even other States. Under such conditions the State at present is powerless. A large number of appeals from county superintendents of health to the secretary of the State Board of Health asking protection for their counties against contagion turned loose through ignorance, indifference, or deliberate political play of moral weakness to ignorant popular favor, are now on file in the office of the secretary.

To these appeals we were, under our present quarantine law, debarred from extending the necessary assistance.

A bill will be introduced in the present General Assembly to give the State authority to enforce the quarantine laws, making it possible thereby to protect the majority of intelligent, health-loving counties from a few county health governments remarkable for lax quarantine enforcement.

PRESENT STATE HEALTH LAWS.

The present enforceable State health laws are: The law requiring the registration of deaths in towns or cities with a population of 1,000 or over, according to the last decennial census; the law relating to the inspection of State institutions; the law requiring the distribution of diphtheria antitoxin to the indigent sick of diphtheria; the law requiring the appointment of a county superintendent of health when this duty is not performed by the county sanitary committee; the law pertaining to the sanitary control of public water supplies and the law governing the work of the State Laboratory of Hygiene.

THE VITAL STATISTICS LAW.

To the health officer vital statistics are what the chart and compass are to the mariner. Without them he knows not whence he came nor whither he goes.

By vital statistics he is warned against danger. A timely warning, an opportune application of the ounce of prevention, and many lives are saved. For example, the vital statistics of a certain town show that that town has twice the average death rate of other towns in which the same climatic conditions prevail. This fact, but for these statistics, would escape notice, for people die slowly, and neighbors, without some comparative record, would regard their deaths as natural. An investigation follows the disclosure of these statistics, and the cause of this increased death rate is discovered; the cause is then removed and proper precautions are taken to prevent its continued morbid effect and the loss of many lives is prevented.

By vital statistics the health officer's course—progression or retrogression—is both indicated and measured. Some measure of supposed sanitary value is put into operation. Its value will be measured almost wholly by the statistical returns. If it is without effect, the cost of operating it will be saved; if it is life-saving, others may know and take advantage of it.

By vital statistics justice often finds her way clear and travels quickly, whereas, without them, she creeps along with difficulty or loses altogether the indistinct trail of the murderer, abortionist, or suicide. Without them the child labor law is often administered by an ignorant or cruel parent. No birth registration, no efficient child labor laws.

Our vital statistics law, chapter 722, Laws of 1909, pronounced by Chief Statistician Wilbur, of the United States Bureau of the Census, to be the only practical vital statistics law in the South, has been in operation since September, 1909. This authority and government expert on the enforcement of vital statistics laws made an inspection of

the results of the enforcement of our vital statistics law through a personal visit and examination of the certificates filed in the office at Raleigh, in the early part of April, 1910. It is encouraging to those of us concerned in its execution to know that he was well pleased with its enforcement. The approval of the execution of this law encourages us to hope that North Carolina will at an early date be accepted by the Federal Government as a registration State.

At present our vital statistics law applies only to cities and towns with a population of 1,000 or over, according to the last decennial census. This gives us a registration area containing about 450,000 people, or about one-fifth of our State's population.

THE LAW GOVERNING SANITARY INSPECTION OF STATE INSTITUTIONS.

This law has been faithfully executed. In every instance the inspection was made without previous notification, and the conditions found may therefore be regarded as a fair index to the everyday conditions obtaining in our State institutions. The official report of these inspections will be found on pages 85-92 of this report.

THE LAW REQUIRING THE DISTRIBUTION OF DIPHTHERIA ANTITOXIN.

In accordance with this act, passed by the Legislature of 1909, 67 counties and 8 cities have availed themselves of the opportunity of obtaining antitoxin at a very reduced rate for their poor. The State Laboratory of Hygiene acts as a distributing depot, and ships the antitoxin, on demand, to any point in the State. By the contract with the manufacturers, the special rate can be obtained only for indigent cases when paid for by the county or municipality. The benefits of the act do not apply to that largest class of the population, the independent poor, those who do not want to be classed with the indigent, yet can ill afford to pay the high prices charged for diphtheria antitoxin. It is therefore recommended that the General Assembly be requested to furnish diphtheria antitoxin to its citizens free of charge or at least arrange to furnish it to all its citizens at actual cost. It is possible that the latter arrangement could be made without a change in the law, and it is recommended that a new contract be sought with this in view. It may be desirable ultimately for the State to manufacture its own antitoxin, but meanwhile the same good can be accomplished at approximately the same cost if the General Assembly sees fit to buy all the antitoxin needed for its citizens.

A bill will be introduced in the next legislature asking for a change in this law.

THE LAW REQUIRING THE APPOINTMENT OF A COUNTY SUPERINTENDENT OF HEALTH.

The proviso in Section 4444, Revisal of 1905, as amended by the General Assembly of 1909, authorizes the Secretary of the State Board of Health to appoint a county superintendent of health in counties where the sanitary committee have failed to elect that official. In only one instance has it been necessary for the secretary to comply with this proviso of the law during the last two years.

THE LAWS RELATING TO THE PUBLIC WATER SUPPLY.

The laws governing the protection of public water supplies against pollution requires the filing in duplicate by the superintendent of the water company of certified plans and surveys of the watershed made in accordance with instructions furnished by the State Board of Health. These instructions are embodied in "Circular A," an exact copy of which is reproduced on page 98 of this report.

The law protecting the public water supplies against pollution further requires that a quarterly inspection and report of the sanitary condition of the watershed and all surface supplies be made in accordance with reasonable rules and regulations of the State Board of Health. In accordance with these rules and regulations the sanitary inspectors of the different surface supplies are furnished with instructions for making the inspection. These instructions are embodied in "Circular B," an exact copy of which is reproduced on page 101 of this report.

In making the inspection of a watershed the inspector leaves at each home a copy of "Circular C," which instructs the householder and family in regard to their duties in the protection of the public water supply through the proper sanitary care of their premises. This circular is reproduced on page 108 of this report.

Finally, the inspector after having made his inspection in accordance with "Circular A," and after having instructed the residents on the watershed in accordance with "Circular C," makes out his report in duplicate on "Form A," an exact copy of which is reproduced on page 110 of this report, and then mails these reports to the Secretary of the State Board of Health.

In connection with the sanitary supervision of the public water supplies, I feel that as the State health officer I should violate both my sense of duty and my public trust if I failed to make grateful acknowledgment of the cordial, untiring and almost unlimited assistance rendered me in my efforts to protect the public water supplies by Colonel J. L. Ludlow, of the State Board of Health. His able service has been given so unstintingly to the public water supply interests that I feel that it is a considerable imposition on the part of the State to accept these services further without some material compensation.

The sanitary patrol and inspection of watersheds for the purpose of preventing water-borne disease is reinforced in its purpose by the law requiring monthly analyses of the various public water supplies. It has never yet been necessary to apply to the courts to enforce the law requiring water companies to send samples of their water monthly for analysis, but the penalty for the enforcement of this law is so small that we hope the General Assembly of 1911 will see fit to increase it. Analyses to the number of 14,826 have been made in accordance with this law from January 1, 1909, to December 31, 1910.

The law protecting public water supplies also applies to springs from which water is sold either at summer or health resorts or in bottles. This law requires that these springs shall pay a graduated tax or procure a license, through which revenue the State Laboratory of Hygiene shall be able to analyze the waters of these springs. The law further pro-

vides that if any bottled water be found polluted in three successive analyses, publication of that fact shall be made in the MONTHLY BULLETIN OF THE STATE BOARD OF HEALTH. Very little trouble has been experienced in the enforcement of this law. During the last two years three bottled waters have been found polluted, and notice thereof given to the public through the BULLETIN.

Here I wish to call attention to the wide and beneficent scope of this law. Those placing bottled waters on the market, knowing that sooner or later some of the water will find its way into the State Laboratory of Hygiene and there be analyzed, realize that if it is found polluted and published through the MONTHLY BULLETIN OF THE STATE BOARD OF HEALTH, not only to the people of North Carolina but throughout the United States, their business will be seriously injured. In this way this law has a splendid influence in keeping commercial waters pure, not only at the springs and bottling plants in North Carolina, but also throughout the United States.

THE LAW ESTABLISHING THE STATE LABORATORY OF HYGIENE.

This law, Section 3057 of The Revisal of 1905 as amended by the Legislature of 1909, finds ample justification in the following detailed statement:

NUMBER OF SPECIMENS EXAMINED AT THE NORTH CAROLINA STATE LABORATORY OF HYGIENE FROM MARCH 1908 TO DECEMBER 31, 1910.

	1908	1909	1910
January		131	210
February		134	199
March	62	213	257
April	104	160	431
May	114	176	456
June	141	204	468
July	183	387	624
August	227	452	1,914
September	271	406	1,178
October	201	372	1,640
November	171	280	1,853
December	189	256	2,414
	<hr/>	<hr/>	<hr/>
	1,663	3,171	11,644
Total			16,478

Pasteur treatment was given to 355 patients since July 22, 1908.

The following is a comparative statement of the work done annually in the Health Laboratories of the Southern States:

<i>States</i>	<i>Number Analyses</i>
North Carolina	11,644
Virginia, 11 months, 4,394; at same ratio for 12 months.....	5,759
Georgia, 9 months, 1,494; at same ratio for 12 months.....	1,992
Florida, at three laboratories, Jacksonville, Tampa, and Pensacola.....	*14,964
Alabama	997

*Florida spends about \$75,000 annually on her public health.

Mississippi has just opened a laboratory, while Texas, Arkansas, Kentucky, and Tennessee have no organized laboratories for work of this character.

The direct appropriation to the Laboratory by the Legislature is \$2,000. The tax on water companies is approximately \$4,000, thus making the income of the laboratory \$6,000. Eleven thousand six hundred and forty-four different specimens were examined. The cost to the State of each examination made in 1910 was 51 1-2 cents. Among the specimens examined were 1,835 water analyses, each of which comprises from five to twenty-five distinct chemical and bacteriological tests. If each of these were estimated as separate tests the average cost would be greatly reduced. Out of the above sum also 160 patients were given the Pasteur anti-rabies treatment, as no appropriation is made for this work.

OPINIONS OF ATTORNEY-GENERAL.

In executing the State public health laws it has frequently been necessary to ask the advice of the Attorney-General. That official has always given us the most cordial co-operation and it is impossible to overstate our deep appreciation for his valuable opinions. A copy of these opinions will be found on pages 68-84 of this report.

EDUCATIONAL FUNCTIONS OF THE STATE BOARD OF HEALTH.

Section 4437 of The Revisal of 1905 as amended by the General Assembly of 1909 reads as follows:

"The Board of Health shall take cognizance of the health interests of the people of the State; shall make sanitary investigations and inquiries in respect to the people, employing experts when necessary; shall investigate the causes of disease dangerous to the public health, especially epidemics, the sources of mortality, the effect of locations, employments and conditions upon the public health. *They shall gather such information upon all these matters for distribution among the people, with the especial purpose of informing them about preventable diseases.*"

The italics are ours.

This educational provision for the improvement of public health is a most wise one. Out of education comes public sentiment; through public sentiment, law is both enacted and enforced. At present ninety per cent of the work of the Board is of an educational nature. This work has been carried on through the BULLETIN OF THE STATE BOARD OF HEALTH, through contributions to the newspapers, and through public addresses.

THE BULLETIN.

The BULLETIN has grown in circulation from 3,500 in January, 1910, to 18,000 January, 1911, and with this increased circulation the size of the BULLETIN has been enlarged from a ten page to a seventy page publication. During the past four months, requests for the BULLETIN have averaged thirty-five daily. At present the entire ministerial, legal and medical profession, about seven thousand out of the ten thousand school teachers, and a large number of other wide-awake people throughout the State receive this educational monthly.

To give a wider field of usefulness to the BULLETIN, a contributory Board of Editors composed of the following gentlemen, have agreed to assist in its publication :

1. Governor W. W. KITCHIN, Raleigh, N. C.
2. Hon. A. H. ELLER, Winston-Salem, N. C.
3. Hon. E. W. SIKES, Wake Forest, N. C.
4. Hon. W. C. DOWD, Charlotte, N. C.
5. Mr. CLARENCE POE, Raleigh, N. C.
6. Mr. ARCHIBALD JOHNSON, Thomasville, N. C.
7. Rev. GEORGE W. LAY, Raleigh, N. C.
8. Dr. HENRY L. SMITH, Davidson, N. C.
9. Dr. FRANCIS P. VENABLE, Chapel Hill, N. C.
10. Dr. W. P. FEW, Durham, N. C.
11. Dr. WILLIAM L. POTEAT, Wake Forest, N. C.
12. Dr. F. L. STEVENS, West Raleigh, N. C.
13. Dr. CYRUS THOMPSON, Jacksonville, N. C.
14. Dr. CHAS. O'H. LAUGHINGHOUSE, Greenville, N. C.
15. Dr. L. B. McBRAYER, Asheville, N. C.
16. Dr. BENJ. K. HAYS, Oxford, N. C.
17. Dr. EDWARD J. WOOD, Wilmington, N. C.
18. Dr. WILLIAM DeB. MacNIDER, Chapel Hill, N. C.
19. Dr. H. A. ROYSTER, Raleigh, N. C.
20. Dr. J. L. NICHOLSON, Richlands, N. C.

This means that the BULLETIN through a greater variety of expression and subject matter will be more attractive and more serviceable than ever before. It, of course, would be impossible without great expense to republish the entire issues of the BULLETIN during the past two years in this report.

THE STATE PRESS.

The press of the State has been most cordial in its co-operation with the Board for better public health. Always liberal in the use of their columns for the public service, they have, in the assistance given us, even exceeded their own enviable reputation for generosity.

The State press in calling repeated attention to the fact that the BULLETIN could be had for the asking, and that it was well worth a place in the homes of our people, have had much to do with building up a greater demand for that publication. During the months of July, August, September, and October many of the papers of the State published weekly articles on public health sent out from this office. To conclude, the assistance of the press has been of inestimable value.

ADDRESSES.

During the last twelve months a number of public health addresses—fifty or sixty—have been delivered to audiences representing different fields of activity. The Conferences of County Superintendents of Schools for 1909 and 1910, the North Carolina Teachers' Assembly, the North Carolina State Primary Teachers' Association, the Meeting of Conductors of Teachers' Institutes, a number of Teachers' Institutes,

the North Carolina Press Association, the Tri-State Medical Society, the Wake County Medical Society, the Guilford County Medical Society, the North Carolina Society for the Study and Prevention of Tuberculosis, the Carolina Municipal Association, the State Federation of Women's Clubs, and many other gatherings of people have been addressed on the fundamental problem of public health. Through the interest aroused in these various organizations others have taken up the study of public health problems and these have succeeded in interesting many others.

THE ANTI-HOOKWORM CRUSADE.

Under the able direction of Assistant Secretary Dr. John A. Ferrell, the public have been seriously and actively interested in a general campaign against a disease the frequency of which probably totals all other diseases combined.

Dr. Ferrell's report of the work accomplished is given in detail on page 93 and a very superficial perusal of this report will warrant the assertion that the work could not be in better hands.

Meetings of the Board

OFFICE OF THE SECRETARY.
RALEIGH, N. C., March 30, 1909.

Called meeting. All the members of the Board present. The President called upon the Secretary to explain the object of the meeting. In response he stated that the principal reason for calling the meeting was that such action might be taken by the Board as was rendered necessary by the amendment to the laws relating to the public health enacted at the recent session of the General Assembly. For the information of the Board the Secretary then read the four acts relating to the public health, the titles of which were as follows:

An Act to Amend Sections 3045, 3058, 3457, 4440, 4442, 4444, 4457, 4460 and 4508 of The Revisal of 1905, Relating to the Public Health.

An Act to Amend Section 3057 of The Revisal of 1905, relating to the State Laboratory of Hygiene.

An Act to Provide for the Registration of Deaths in Municipalities of One Thousand Population and Over in the State of North Carolina.

An Act to Provide Diphtheria Antitoxin for Indigent Persons Sick of Diphtheria.

He also called attention to the fact that the annual appropriation for the support of the State Sanatorium for Tuberculosis had been increased by the Legislature from \$5,000 to \$7,500, and that an additional appropriation for permanent improvements of \$15,000 a year for two years had also been made.

Dr. Lewis then offered his resignation as Secretary and Treasurer, to take effect June 30th, the last day of the month in which the fiscal year ended. He gave as his principal reason for taking such a step the fact that the new law required the Secretary to devote his entire time to the cause of the public health and that he was unwilling to abandon his regular profession—his life work. He expressed his regret at giving up the work which had been for so many years largely a labor of love, but felt sure that it was best both for the work's sake and for his own. He explained to the Board that for some years he had realized that the great importance of the work demanded all the time of a competent Secretary with ample assistance, and believing the time to be auspicious for a forward movement, he had prepared a bill which if enacted into law, while legislating himself out of office, would bring this about. He also stated that believing the successful prosecution of the work to be dependent upon the qualifications in several respects of the new Secretary and that a mistake in the selection of the man would be a misfortune hard to remedy he had gone over in his mind the medical men of the State and assured himself that such a man was available and that if elected he would accept the position, before he wrote the bill. Having expressed his gratification at the fact that he would still continue a member of the Board and his sincere appreciation of the unvarying

kindness, courtesy and cordial support of the Board during his incumbency of nearly seventeen years, he retired from the meeting.

Minutes by Dr. Way, Secretary pro tem.

Dr. Lewis resigned to take effect June 30, 1909, retiring from the hall. The President placed his resignation before the Board and asked their pleasure. Dr. Register expressed his great appreciation of the splendid work of seventeen years and his regard for Dr. Lewis and had felt that if he (Dr. Lewis) could be induced to continue he would ask him to do so. He wished his appreciation of Dr. Lewis's great work be recorded. Dr. Anderson reciprocated fully the words of Dr. Register. Dr. Spencer moved that a committee composed of Drs. Register and Thomas be appointed to confer with Dr. Lewis and ask if he can reconsider his resignation and serve out his full term. Carried. This committee through Dr. Thomas reported that Dr. Lewis felt compelled to consider his resignation as final. Dr. Thomas eulogized Dr. Lewis as one of the notably few men he had ever known fitted for the work.

On motion of Dr. Burroughs seconded by Dr. Spencer, Dr. Lewis's resignation was accepted.

Dr. Burroughs moved that a committee of three be appointed by the President at his convenience to prepare resolutions expressive of appreciation for the annual session of the Board in June. Carried.

Dr. Lewis, returning, resumed his duties as Secretary. The chair announced that nominations for Secretary and Treasurer to fill the vacancy were in order. Dr. Lewis, prefacing his remarks by the statement that he felt that he ought to say that Dr. Way had been his first choice as his successor and that upon the assurance of the doctor that while he felt a deep interest in the work he could not afford to give up his lucrative practice and comfortable home, he had worked for and found another good man, placed in nomination Dr. Watson S. Rankin, Dean of the Medical Department of Wake Forest College, at a salary of \$3,000 a year. He declared Dr. Rankin to be in his opinion a man of character, ability, energy, enthusiasm and possessed of the altruistic spirit so helpful in work of this kind and admirably fitted for the position. The nomination of Dr. Rankin was seconded by Drs. Burroughs, Register and Way, and he was unanimously elected.

Action on the election of an Assistant Secretary for the anti-tuberculosis work was upon a motion of Dr. Way, postponed until the annual meeting in June.

The Secretary called attention to the fact that under the new law one member of the Board must be elected to complete with the President and the engineer *ex officio*, the Executive committee. On motion of Dr. Way, Dr. Lewis was elected to serve on the Executive Committee.

On motion, the salary of Dr. C. A. Shore, Director of the Laboratory of Hygiene, was increased from \$2,000 to \$2,500 a year; that of Miss Daisy Allen, Chemical Assistant, from \$75 to \$90 a month, and that of Miss Mabel P. Massey, Stenographer, from \$50 to \$75 a month, it being understood that she was to give her whole time to the work of the Board. All increase in salary to take effect July 1, 1909.

Dr. Way, representing the Board of Health of Waynesville, filed with the Board plans for a public water supply which had been approved by the sanitary engineer of the Board. The plans were approved.

On motion, the Board adjourned.

RICHARD H. LEWIS, *Secretary*.

BATTERY PARK HOTEL,
ASHEVILLE, N. C., June 15, 1909.

The Board met in annual session in the room of the Secretary, with President Thomas in the chair. Those present were Drs. Thomas, Anderson, Way, Spencer, Register, Burroughs, Col. Ludlow and the Secretary.

The minutes of the last annual meeting at Winston-Salem and of the called meeting held at Raleigh, March 30, 1909, were read and approved after the correction of the latter by the insertion of the following resolution which had inadvertently been omitted:

"Resolved, That His Excellency the Governor be requested to reappoint Col. J. L. Ludlow as the Engineer member of the Board."

Unanimously adopted.

Drs. Ray and Robertson, of Yancey County, appeared before the Board at the request of the Chairman of the Board of Commissioners of that County to request the appointment by the Board of Health of a Superintendent of Health for that county, as the County Sanitary Committee had failed to elect one. As the two months required by the statute before action could be taken by the State Board of Health had not expired, the matter, upon the motion of Dr. Spencer, was referred to the Executive Committee.

The Secretary having called attention to the expiration of the term of Dr. Way as a member of the State Board of Embalming, he was re-elected for the full term of five years.

Col. Ludlow called attention to the menace to the public water supply of the town of Greenville by the discharge of raw sewage into Tar river by the towns of Rocky Mount and Tarboro and offered the following resolution:

"Resolved, That the Secretary of the Board shall give notice to the municipal authorities of the towns of Rocky Mount and Tarboro that Section 3051 of The Revisal of 1905 must be immediately complied with: and further, that in the event that said towns shall fail to provide and put into operation such sewage purification plants as said law requires within six months from this date, the Secretary of the Board is hereby instructed to take such legal steps as may be necessary to secure a restraining order from the courts of the State enjoining said towns from further discharge of raw sewage into Tar River and to take such steps as may be necessary to secure the conviction and punishment of either or both of said towns and the authorities thereof for committing a misdemeanor as defined and provided for, in the said public health laws of the State of North Carolina."

This resolution was adopted.

Col. Ludlow then called attention to the menace to the Raleigh water supply by the town of Cary and offered the following resolution:

"Resolved, That the Secretary shall give notice to the municipal authorities of the town of Cary that the provisions contained in Section 3052 of The Revisal of 1905 must be fully complied with immediately; and further, in the event said authorities shall fail to comply with said Section 3052 within three months of this date the Secretary is hereby instructed to take such steps as may be necessary to secure the conviction and punishment of said town authorities for committing a misdemeanor, as provided in said Section 3052 and in Section 3060."

This resolution was adopted by the Board.

The Engineer of the Board likewise set forth the danger of the contamination of the public water supply of the town of High Point and offered the following resolution:

"Resolved, That the Secretary shall give notice to the General Manager and the Division Superintendent of the Southern Railway Company that in compliance with the provisions of the Public Health Laws of North Carolina and more particularly of Section 3049 of The Revisal of 1905, the said railway company is instructed to issue orders, and to secure the enforcement thereof, that all water closets on trains shall be locked and disused between the depot of High Point, in Guilford County, and the bridge crossing Deep River; and further, that the casting from trains of sweepings from cars, dining car refuse, or other garbage shall not be permitted between said points where the said railway traverses the watershed of the High Point public water supply; and further, should this instruction and said laws be violated, that the Secretary shall take such steps as may be necessary to secure the conviction and punishment of the said railway company and the officers thereof for committing a misdemeanor, as provided for in the Public Health Laws of the State of North Carolina. And further, that the Secretary shall give similar notice and take similar action in other cases where railways traverse the watershed of any public water supply within the State whenever the knowledge of such condition may be brought to his attention."

After considerable discussion the following substitute for the above resolution, suggested by the Secretary and offered by Dr. Anderson, was adopted:

"WHEREAS, The Southern Railway runs across the watershed of the public water supply of the town of High Point and for a considerable distance quite close to the bank of the stream of supply and the impounding reservoir and,

"WHEREAS, There is danger of infection of the said public water supply by the infections of the passengers; therefore, be it

"Resolved, That in compliance with Section 3047 of The Revisal of 1905 the Southern Railway Company be, and it is hereby requested to have all water closets locked between High Point and Deep River bridge."

Dr. Way was elected the delegate to the next meeting of the American Public Health Association at Richmond and Dr. Lewis to that of the Conference of State and Provincial Boards of Health at Washington.

Upon motion, the Executive Committee was empowered to exercise all

the powers of the Board of Health in the time between the meetings of the Board.

The President appointed Dr. Spencer and Col. Ludlow a committee to audit the accounts of the Treasurer.

Upon motion of the Secretary his successor, Dr. Rankin, was invited to sit with the Board and take part in the proceedings. Accepting the invitation the doctor expressed his appreciation of the honor done him by the Board in his election as Secretary and Treasurer to succeed the present incumbent and pledged his faithful service. Upon his inquiry as to whether the Board or an individual would be expected to buy books for the library of the Board, expressing his willingness to make the purchases himself, Dr. Way moved—and the motion was carried—that the Secretary be authorized to purchase such books and subscribe to such journals relating to the public health as in his judgment might be needed and the available funds would permit.

Upon motion of the outgoing Secretary, who agreed to look after the office during the absence of his successor, Dr. Rankin was authorized and requested to spend a month in investigating the practical methods pursued by the executive health officers of such States as he might select and in visiting the United States Hygienic Laboratory and the Bureau of the Census, his traveling and hotel expenses to be paid by the Board.

Upon motion the Board adjourned to meet in conjoint session with the State Medical Society tomorrow at noon.

RICHARD H. LEWIS, *Secretary*.

Annual Session of the Board of Health.

ASHEVILLE, N. C., June 16, 1909.

The Board reassembled at 3 p. m. with President Thomas in the chair and all the members present except Drs. Burroughs and Taylor.

In compliance with the amended law the Secretary nominated Dr. C. A. Julian, the Secretary of the North Carolina Association for the Prevention of Tuberculosis, for the position of Assistant Secretary of the Board for Tuberculosis at a salary of three hundred dollars a year. Dr. C. A. Julian was duly elected.

Upon the statement of the Secretary that Drs. E. J. Wood and H. Bellamy, of Wilmington, had expressed a willingness to do research work in the study of pellagra under the auspices of the Board they were appointed a commission to undertake it.

Upon motion of Dr. Spencer, the Treasurer was instructed to pay the traveling and hotel expenses incurred by Dr. Lewis as delegate to the meeting of the American Public Health Association at Winnipeg, Manitoba.

Upon motion the President appointed Drs. Way and Register a committee to draft suitable resolutions in regard to the retirement of the present Secretary.

The Auditing Committee reported that they had examined the accounts and vouchers of the Treasurer and found them correct.

Upon motion the Board adjourned.

RICHARD H. LEWIS, *Secretary*.

In the transcription of the proceedings from the rough notes of the meeting of the 15th a sheet was inadvertently overlooked until after the above was signed. The part of the proceedings referred to were as follows:

Upon motion of Dr. Way it was ordered that the MONTHLY BULLETIN of the Board be enlarged in expense and scope and that its mailing list be enlarged as much as practicable.

Upon motion of Dr. Way the Secretary was requested to furnish the Secretary of the Wake Medical Society a copy of the proceedings of the Board at its called meeting on March 30, 1909, and of this session for publication in the transactions of that society.

Upon motion of Col. Ludlow the State Superintendent of Public Instruction was requested to require in the public schools not less than a five-minute period daily to be devoted to some subject bearing on health and the Secretary was requested to furnish the teacher with serviceable literature.

RICHARD H. LEWIS, *Secretary*.

Conjoint Session of the North Carolina Board of Health with the Medical Society of the State of North Carolina.

PRESIDENT G. G. THOMAS, CHAIRMAN.

ASHEVILLE, N. C., June 16, 1909.

The meeting was called to order by Dr. Thomas, of Wilmington, Chairman of the State Board of Health.

DR. THOMAS: "This conjoint session marks a period in the history of the State Board of Health of North Carolina, which to us is very significant. It is the end of the service of Dr. R. H. Lewis, for so long the efficient Secretary.

"Following Dr. Wood, the pioneer of sanitation in North Carolina, he took up the work with zeal and enthusiasm, which he has guided and carried on by his wonderful judgment to its present high state. To Dr. Lewis belongs the spread of sanitary knowledge in the State of North Carolina, and the present influence of the Board of Health in the commonwealth.

"All of you are aware that these steps towards the commanding position it now holds have been slow and faltering, but the State at large has come to realize the fact that the State Board of Health has done good work for it, and its recognition, I think, is thoroughly voiced in the action of the last Legislature, in largely increasing the fund for its support, at the suggestion of our Secretary, Dr. Lewis—which is the prime evidence of the confidence which has followed his work, which is as well based upon the character of the man. He has gained not only our confidence and respect, but that of the gentlemen who represent the different constituencies throughout the State.

"I say, then, when this good man feels that he must lay down this work,—not because he is feeble or infirm; I assure you of the contrary, it is because he can not relinquish his active professional work to take up the work of the State Board of Health exclusively,—it is time to feel grateful for the work he has done for the State and for the medical profession." (Applause.)

Report of the Secretary read by Dr. Lewis.

REPORT OF THE SECRETARY, MAY 20, 1908, JUNE 11, 1909.

Your Secretary, in this, his last report, is much gratified at being able to say that his last year of service has witnessed the greatest advance of the cause of preventive medicine in our State, in a like period of time, since the establishment of the State Board of Health. For several years he has realized that, owing to the exactions of his private professional work, the time he could give to the work of the Board was entirely inadequate. He believed also, that, owing to the very small salary allowed the secretary, on account of the meager appropriation, no one else could be expected to give more attention to it and make a proper living, and so he waited before taking action until, in his judgment, the outlook was favorable for an attempt at a forward movement. Upon the assembling of the last Legislature the conditions, in his opinion, justified making a trial for better things. Consequently, having found a man whom he believed to be well qualified for the position and having obtained from him a positive promise to accept an election, if tendered him by the Board, your Secretary prepared a bill, while incidentally legislating himself out of office, as he could not afford to abandon his private practice, that would provide the means for work far in advance of anything heretofore attempted for the public health. The essential feature of the bill was an increase of the annual appropriation from two to ten thousand dollars, authorizing the payment to the Secretary of a salary of three thousand dollars a year and requiring him to give his entire time to public health work. While the Legislature cut down the appropriation asked for to six thousand dollars, it still left an increase of 200 per cent and a sum sufficient to secure all the time of a competent secretary, the one thing absolutely essential to any marked progress.

As you already know, the present incumbent, at a call meeting on March 30th last, tendered his resignation, which was accepted, to take effect July 1st, and Dr. Watson S. Rankin, Dean of the Medical School at Wake Forest College, was unanimously elected as his successor.

The public health laws were also materially and advantageously amended in many other respects, particularly those sections relating to the control of public water supplies by the State Board of Health, in the preparation of which latter amendments, invaluable aid was rendered by the engineer of the Board, Col. J. L. Ludlow.

Section 3057 of The Revisal of 1905, relating to the State Laboratory of Hygiene, was amended by specifically requiring analyses of drinking waters sold in bottles or other packages and imposing upon those selling them an annual tax graduated in proportion to the gross receipts from sales. While the original act imposed an annual tax of \$64 upon all individuals, firms and corporations selling water to the people, it was found, upon investigation, that in many instances this was out of proportion to the business done, and it was deemed both right and wise to make the tax equitable and at the same time to make it perfectly clear

that bottled waters came within the law. The necessity for analysis of this class of waters was startlingly shown by analyses your Secretary had made in the laboratory in the general cause of the public health and for the purpose of supplying ammunition with which to meet an attack upon the law, threatened by the president of one of the companies selling a water of this class. Of sixty-one samples from twenty-nine springs thirty-two were found to be infected with colon bacilli. Although the gentleman referred to passed away before the General Assembly met, the information thus obtained was of service in securing the desired legislation. The section was further amended so as to require analyses of the waters of springs "maintained and treated as an adjunct to any hotel, park or resort for the accommodation or entertainment of the public," and an annual tax of \$15 was imposed upon all such sources of water supply, with an additional tax on all waters sold therefrom in bottles, in accordance with the schedule referred to above.

Probably the weakest spot in our sanitary legislation has been the lack of reliable vital statistics. The only statistics we have had heretofore have been those collected by some twenty-odd cities and towns in various and manifestly, in some instances, very imperfect ways, and incomplete and inaccurate vital statistics are practically worthless. A model vital statistics bill for States was sent us by both the Bureau of the Census and by the American Medical Association. Theoretically, it was an excellent bill, and for densely populated, highly organized communities it is doubtless practicable, but for our State, with its large, widely scattered rural population, and one-third of that negroes, it would have been little short of absurd. After a very careful consideration of the subject it was decided that any attempt at the collection of reliable vital statistics holding out the least hope of success, for the present at least, would have to be limited to incorporated towns. So, desiring that our statistics might fit in with those of the United States Census Bureau, a request was made of Dr. Cressy L. Wilbur, Chief Statistician, to have prepared for us a bill applying only to cities and towns of one thousand population and over. Taking the bill he kindly and promptly sent as a basis, it was modified to fit our conditions. After its passage in its completed state it was very gratifying to learn from Dr. Wilbur that it was the first practical vital statistics law to be enacted in the South, and, moreover, that it contained a provision for the enforcement, new to him and in his opinion valuable. This provision was placing the responsibility for carrying out the law solely upon the mayor, and making him liable to a fine of not less than \$10 for failure of duty in this respect; and at the same time making it mandatory upon the solicitor to institute a criminal action for its collection, upon complaint of the State Registrar or Secretary of the State Board of Health. It really looks now as if vital statistics of real value, though necessarily partial, were in sight.

The high price of diphtheria antitoxin being prohibitory to the poor, the propriety of making provision for its supply free to indigent cases of the disease should not be questioned by any humane person. The suggestion of the advisability of such legislation came from Dr. B. E. Reeves, of Alleghany County, in a letter, accompanied by a tentative bill, to Senator R. L. Doughton, of the same county. The suggestion was cordially received, and at his request Dr. Reeves's bill was modified and amplified into the law as we now have it.

Another forward step was the increase in the annual appropriation for the support of the State Sanatorium for Tuberculosis, from \$5,000 to \$7,500, and the

appropriation of \$30,000 for improvements. This institution, which is ideally located, was opened for patients in November last, and promises to be of much value in the campaign against tuberculosis.

The most gratifying and encouraging thing in connection with the health legislation by the late General Assembly is that, with the exception of the cutting down of the appropriation of ten thousand dollars asked for to six and an immaterial amendment to the bill relating to the Laboratory of Hygiene, requiring reciprocity in the matter of analyses of bottled waters with other States having similar laboratories and requirements, all the bills relating to the public health in any way were passed without amendment and without a single vote in the negative. This signifies a remarkable growth in favorable public opinion and justifies the hope of more rapid progress in the near future.

As this report is made to the conjoint session of the State Board of Health with the Medical Society, and as nothing is of more importance to the public health than well-qualified physicians, reference to the strictly medical legislation is in order.

A bill, prepared by the Board of Medical Examiners, the essential feature of which was the requirement of a preliminary education equal to graduation from a high school of all applicants for license, was introduced in the House by one of its most influential members. The requirement was certainly a most reasonable one, and, as a matter of fact, of special value to the prospective student of medicine but it was bitterly fought with the usual demagogic arguments of "Medical Trust," "poor boy," and, after three hot contests, was finally defeated by a majority of one.

The amendment to the license law, authorizing the Board of Medical Examiners, in its discretion, to modify the requirements of the law and to grant a limited license, when the conditions in the neighborhood from which the applicant came demanded it, met with no opposition. Special acts licensing certain physicians had been introduced and the indications were that they would be passed. To prevent this kind of legislation, which would mean in the end the practical destruction of our license law, this amendment was suggested as a compromise and accepted by the introducers of the bills. This action on the part of those having the matter in charge has been criticised in some quarters, but it should be said that a copy of the amendment was sent to every member of the Committee on Legislation and of the Board of Medical Examiners and was approved or assented to by all, with the exception of a single member of the Board of Medical Examiners. Those on the ground and familiar with the conditions as they actually existed in the Legislature felt no doubt whatever as to its wisdom.

Before leaving the subject of legislation, acknowledgment should be made of the valuable assistance rendered by Dr. Albert Anderson of the committee.

After nearly seventeen years of active and loving service your Secretary lays down the work with regret, although he realizes that it is best for the work's sake as well as for his own. He is conscious of many things left undone that ought to have been done, and perhaps some things have been done that ought not to have been done, but he has tried to be of some service to the State.

In conclusion, he wishes to express his deep and heartfelt appreciation of the unfailing and unvarying kindness and courtesy he has received at your hands, and to most cordially commend to you his successor, Dr. Rankin. Dr. Rankin he believes to be a man of character, ability, energy, enthusiasm and possessed of the altruistic spirit so helpful in work of this kind. If the profession in the

State will hold up his hands and give him their cordial support and co-operation he will do great things in the coming years for North Carolina.

SMALLPOX REPORT.

Counties.	Number of Cases.			Number of Deaths.		
	White.	Colored.	Total.	White.	Colored.	Total.
Anson.....	6	10	16			
Ashe.....	15		15			
Bertie.....	1	5	6		1	1
Bladen.....		7	7			
Buncombe.....		1	1			
Cabarrus.....	1		1			
Caldwell.....	106		106			
Camden.....	15	80	95			
Carteret.....	1		1			
Catawba.....	3		3			
Cherokee.....	1		1			
Chowan.....	12	12	24			
Craven.....	2	14	16			
Currituck.....	85	60	145	1		1
Duplin.....	25	110	135	1		1
Edgecombe.....		1	1			
Forsyth.....	23	14	37			
Guilford.....		1	1			
Harnett.....	16	7	23			
Johnston.....	44	41	85			
Jones.....	40	6	46			
Lee.....	13	31	44			
McDowell.....		5	5		1	1
Madison.....	5		5			
Mitchell.....	16	9	25			
Nash.....	8	5	13			
New Hanover.....	5	2	7			
Onslow.....		9	9			
Pasquotank.....	65	40	105			
Perquimans.....		28	28			
Pitt.....		3	3			
Polk.....		3	3			
Richmond.....		2	2			
Rowan.....		3	3			
Rutherford.....	17		17			
Sampson.....	9	28	37			
Scotland.....	24		26			
Wake.....		2	2			
Warren.....		8	8			
Watauga.....	15		15	1		1
Wilson.....		1	1			
Yancey.....	1	3	4			
Total in 42 counties.....	574	553	1,127	3	2	5
Death rate per cent.....				.05	.03	.04

It was moved and seconded by several members that the Secretary's report be adopted. The motion was carried.

A brief report of the work done in the State Laboratory was then read by the Secretary.

This report is as follows:

REPORT OF THE DIRECTOR STATE LABORATORY OF HYGIENE.

The Laboratory of Hygiene is proving itself of greater and greater value to the people and to the medical profession as time passes. The profession is showing increasing interest and appreciation and seems to be well satisfied with the work done therein, and not a word of criticism of either methods or results has come to the office of the Secretary.

The amount of work accomplished by Dr. Shore, the director, and his two assistants, Miss Allen, Chemist, and Mr. Kellogg, Biologist, when compared with that of some other laboratories, is, to say the least, unusual. A perusal of the report of the director, which is appended hereto, will show this. Twenty-three hundred and ninety-two examinations of specimens of various kinds and the administration of the Pasteur treatment to eighty-three patients in addition, in one year, by so small a force, is most gratifying. This could not have been done but for the kindness of the United States Hygienic Laboratory in furnishing us the virus free of charge. Not a case has died, and our records, so far, could not be bettered.

In January last the Laboratory was moved to very commodious quarters: it has been thoroughly furnished with the most approved apparatus and manned by a force as good as any, and we can confidently expect its increasing usefulness.

The following is the report of examinations made in the State Laboratory of Hygiene from May 20, 1908, to May 20, 1909:

	<i>Positive.</i>	<i>Negative.</i>
143 Examinations of feces—		
Hookworm	65	50
Oxyuris vermicularis	1	..
Ascaris lumbricoides	2	..
Amœbe coli	2	1
Fly larvæ	3	..
Tania saginata	1	..
Tubercle bacilli	2	9
Blood	4	2
Cancer cells	1
277 Examinations of sputum for tubercle bacilli.....	108	169
271 Examinations for diphtheria bacilli.....	169	102
43 Examinations for malaria.....	9	34
135 Examinations for Widal reaction.....	56	79
18 Examinations for gonococci.....	7	11
65 Examinations of brains for rabies.....	47	18
2 Examinations, bacterial, of pus.		
6 Differential leucocyte counts.		
122 Specimens of urine, with a variety of bacterial and chemical determinations.		
74 Examinations of pathological tissue, as follows:		
Carcinoma		15
Chronic inflammation		19
Benign hypertrophies		14
Sarcoma		6
Chondroma		1
Colloid goitre		2
Tuberculosis		10
Pyæmia		2
Verruca		1
Necrosis		1
Doubtful (tissue not well preserved).....		1
Placenta		2
2 Examinations of gastric fluid.		
1,234 Examinations of water.		
<hr/>		
2,392 Total.		

Eighty-three patients received Pasteur treatment at this laboratory. Of these, 65 were bitten by dogs in which the disease was demonstrated either by microscopic examination, inoculation experiments in laboratory or by subsequent death of other animals from a bite; in 17 cases only a clinical history of rabies in the attacking animal was obtained; in 1 the history was found to be erroneous and treatment was discontinued; 13 of these cases paid for treatment and the remaining 70 were given free treatment.

C. A. SHORE.

Director.

DR. ALBERT ANDERSON: "As a member of the State Medical Society, I think some expression of appreciation ought to be made at this time of Dr. Lewis's work as Secretary of the State Board of Health, and I am very sorry I am not prepared to speak as the subject demands, for what I shall say will be from my heart, and what I can remember of his work, and not extensively said.

"I would be untrue to myself and untrue to the Medical Society not to say that the North Carolina State Medical Society fully appreciates and loves Dr. Lewis for the great work he has done as Secretary of the State Board of Health.

"I am old enough to remember the work of his predecessor, and remember when he took charge of this work as Secretary of the Board.

"Dr. Lewis went into it with intelligence, with love and with enthusiasm. I have been somewhat in touch with his work from the beginning. I know how wisely he has planned and how enthusiastically he has executed his work in every advanced movement. I know, in the first years of his service, that he planned for large things, and for the universal good of the people.

"I had the honor to be appointed to take instruction in the Government Laboratory, to do some water analyses, many years ago, at his suggestion, and while my service was small and insignificant it started the work that has been more intelligently and wisely done since I quit.

"In connection with Dr. Bate, we tried to render the best service that we could, as beginners, and after we stopped the work was taken up by the State Laboratory of Hygiene and carried on by better trained men. Finally the State Board of Health, through Dr. Lewis, secured Dr. Shore, who stands, I suppose, equal to any man in his work, by long training and intelligent service that he is now rendering to the State.

"The prospect for State preventive medicine is good, and not only the Medical Society, but the State of North Carolina, will ever owe Dr. Lewis a debt of gratitude. He has made history that will never be forgotten, and I feel that it would be unjust to ourselves not to say that we appreciate his services and will always love him for what he has done in the spread of a better general knowledge of hygiene and preventive medicine in the State."

DR. F. R. HARRIS, Henderson: "I desire to say what I can in reference to Dr. Lewis. I am not a speaker, but I have a great deal in my heart to say. I say this because I think preventive medicine in the State is the most important field, as I see it today, and I want to endorse what Dr. Anderson has said and, furthermore, to endorse Dr. Shore.

"We had an outbreak of diphtheria last season, and I had occasion to send many specimens to him, and I want to say that the reports that Dr. Shore made were in accord with the clinical picture, and I believe they were correct, and he has my confidence, and I desire to commend him for his work."

DR. J. T. J. BATTLE: "I am one of a committee of three appointed to draft suitable resolutions to express, in some slight degree, the high esteem in which the Society holds Dr. Lewis, and for the great work he has done for the Society and for the State."

The Chairman asked all who were in favor of the above to signify it by rising vote, and the motion was unanimously carried.

DR. W. S. RANKIN: "*Mr. President*: If I may interrupt for just a word: I feel that it is a little out of place for me to express myself here, and I am absolutely unable to express my admiration of Dr. Lewis's able work in North Carolina. I think that the spirit that has governed and directed this work is the true altruistic spirit, and I feel that Dr. Lewis is a greater man than we North Carolinians recognize. I know that the public health workers of the United States look up to Dr. Lewis as one of the greatest authorities; as one of the originators of public health movements. My slight acquaintance with these men has convinced me of this fact. I know that Dr. Lewis is a national figure in hygiene (applause), and has not received the appreciation at home that he has received abroad.

"In taking up his work the highest ambition that I can cherish is that I may wear the cloak that he lets fall, half as well as he has worn it." (Applause.)

DR. STILES, being asked by the Chairman for remarks, said:

"First of all I would like to endorse this resolution offered in regard to Dr. Lewis, but I have a delicacy in speaking, as I am an outsider.

"I endorse, however, the regret the physicians of this State feel in having Dr. Lewis retire, and this is seconded all over the country. I have heard many expressions of regret that he was going to give up the office of Secretary. It is generally recognized, however, that he has selected a good man as his successor.

"To turn to another subject that I was discussing with Dr. Lewis, just before the meeting came to order; it was understood that several gentlemen were going to speak on sanitary matters, and I suggested that when they spoke we might take up the question of the sanitary privy, so necessary in this State.

"I think, perhaps, *Mr. President*, what I have to say on the subject would come in better after these gentlemen have read their papers, and I therefore ask that you let me present later what I have to say, after these papers have been read."

DR. LEWIS: "*Mr. President*: I would like to announce that there will be a meeting of the State Board of Health in room 123 at a quarter of three o'clock, for the purpose of finishing certain work not attended to on yesterday. There will also be a meeting of the County Superintendents of Health in the tea room at 3:30, for the purpose of forming a

State organization. I hope these gentlemen will attend, so that we may have a quorum.

"I desire to say that we have had one hundred and one cases in which persons have been bitten by rabid dogs since June last, and we have secured from those persons who were able to pay \$831.40—the fifty-dollar fee—for the support of the laboratory."

The Board then adjourned until a quarter to three o'clock.

RESOLUTIONS ADOPTED BY THE STATE MEDICAL SOCIETY ON THE RETIREMENT OF DR. RICHARD H. LEWIS AS SECRETARY OF THE BOARD OF HEALTH.

WHEREAS, Our former and most efficient secretary of the Board of Health, Dr. R. H. Lewis, has decided it necessary to resign from the position; and whereas, for the long period of seventeen years of most arduous and difficult labor, he has accomplished so much, by unfaltering zeal and devotion, for the upbuilding and the honor of the profession, both of the State of North Carolina and the nation; and whereas he has so carefully safeguarded the people against the threatened inroad of disease as to save innumerable lives, the suffering incident thereto, and great pecuniary loss; and whereas, during these strenuous years, we have seen and appreciated the results of his great labors: now, wishing to express the esteem in which he is held, not alone by the profession, but the laity, be it hereby

Resolved, first, That this Society express its conviction that he has done more, both in his official and individual capacity, than would have been possible for any other one to have done.

Resolved, second, That we with reluctance accept his resignation, realizing that we lose in some measure his great capabilities and far-reaching influence.

Resolved, third, That he, having been such a potent factor with the Legislature, has saved us from impending adverse legislation and secured such salutary measures as are responsible for our present advanced position in sanitary work.

Resolved, fourth, That we earnestly implore him to give us yet his wise counsel and help in time of difficulty and threatened legislation.

Resolved, fifth, That it is our sincere wish and prayer that he, having done so much for sanitation and the health of others, may himself be blessed with many future years of vigorous health and abundant enjoyment of the blessings and happiness of life.

AN APPRECIATION.

In the retirement of Dr. Richard H. Lewis as their secretary, the State Board of Health has lost a most efficient officer and the public a most devoted servant.

Dr. Lewis's tenure of office has bridged an important stage in the development of public health work. Our understanding of the true nature of communicable disease had its beginning in the discovery of Van Loewenhoeck, a lens polisher, of Delf, Holland, in 1683. From its beginning, in that year, to 1850, the idea that minute germs caused disease was but a theory, and but little more than theory, supported by only circumstantial evidence, till 1880, when Robert Koch transformed the theory into a scientific fact, and in so doing laid the sure foundation for preventive medicine and public health. For the next ten years these new facts filtered slowly through the medical profession, reaching the general public about 1890, when the public began to grasp the true meaning of preventive medicine.

As Dr. Lewis was elected secretary of the Board of Health in 1892, the beginning of his official life was coincident with the real beginning of preventive medicine. It therefore became his task to nurse this great movement in its early and tender years, in the years so important to future development, when the foundation so essential to what is to follow is being laid. How well he has performed this task is not for the writer to say, for on this question the present status of public health in North Carolina and the best public health authorities in America have handed down an opinion.

As the present condition of public health in North Carolina is largely the result of Dr. Lewis's labors, in conjunction with the Board of Health, it may be taken as the best evidence of his ability as a sanitarian. His best work is probably recorded in the statute books of the State. With the exception of the act establishing the State Sanatorium for Tuberculosis and an act separating the tuberculous prisoners from the well, he either drew up entirely or materially modified before introduction all the laws bearing on public health, and was active in securing their passage by the various Legislatures. In this connection credit is due Col. J. L. Ludlow, the able sanitary engineer of the Board, for preparing the sections in the amendment to The Revisal of 1905 adopted by the last Legislature, giving the Board more power in controlling public water supplies and in suggesting the advisability of analyzing the waters of springs at resorts while open for the entertainment of the public. As long ago as 1902 North Carolina was recognized by the American Public Health Association as one of four of the foremost States in water legislation. Dr. Lewis, with the concurrence of the Board of Health, developed the Laboratory of Hygiene upon the original plan of taxing all corporations or individuals selling water to the public for its support, supplemented by an annual appropriation of \$2,000 which he secured from the Legislature of 1907. Another law very much to his credit is our new vital statistics law. Dr. Creesy L. Wilbur, Chief Statistician of the United States Bureau of the Census, has said of this law that it was "the first practical vital statistics law enacted in any of the Southern States." As correct vital statistics form the very basis of intelligent public health work, the value of this law is at once evident. As law is the result of public sentiment, and public sentiment the result of education, these laws are the result of an effectual educational campaign for the improvement of public health. To this Dr. Lewis has contributed through his editorial work in the BULLETIN OF THE STATE BOARD OF HEALTH and through many noteworthy publications and addresses. Among these may be mentioned his "Drinking Water in Relation to Malarial Diseases," which started the change in Eastern Carolina in the domestic water supply from open wells to driven pumps; his "Instructions for Quarantine and Disinfection"; his leaflets on typhoid and malaria; his pamphlet on the prevention of tuberculosis, pronounced by good judges to be the best of its kind. A leading health officer of the State of New York has said that 90 per cent of the anti-tuberculosis work in that State was based upon Dr. Lewis's presidential address before the National Conference of State and Provincial Boards of Health of North America.

The opinion of the great health officials of America of Dr. Lewis is shown by the recognition they have accorded him in having made him president of both the great national public health associations. In 1905 he was president of the National Conference of State and Provincial Boards of Health of North America, and in 1907 he was president of the American Public Health Association. It is therefore very evident that the retiring secretary is a national figure in public health work.

When it is remembered that the small amount of \$2,000, out of which clerk's hire, etc., was to be taken, was *all* appropriated by our State, it can readily be seen that the secretary's service was largely a labor of love. Forced on account of this small appropriation to practice his profession, as an oculist, to earn a living, he has given his resting hours to the service of his country, thereby showing a self-sacrifice for public weal which should always be an inspiration to those who follow him.

The writer fully realizes the embarrassment he takes upon himself in calling attention to the high standard set by his predecessor, but a sense of gratitude and duty, both as an individual and as a public official, will be satisfied with nothing less. In assuming his official cloak I shall always be mindful of him who wore it so worthily.

Meetings of Executive Committee

OFFICE OF THE SECRETARY,
RALEIGH, N. C., August 10, 1909.

At the request of the President, the Executive Committee was called to meet at the office of the Secretary in Raleigh on August 10th, 1909; the object of the meeting being to consider the sanitary condition of the State Sanatorium for the Treatment of Tuberculosis, the purification of sewage at Rocky Mount and Tarboro, the purity of the Reidsville water supply and to confer regarding Public Water Supplies, Circular B.

Dr. Thomas, President, called the meeting to order at twelve o'clock, Dr. Lewis and Col. Ludlow being present.

Dr. Gordon, President of the Board of Directors of the State Sanatorium for the Treatment of Tuberculosis, and Dr. Julian, Assistant Secretary for Tuberculosis of the State Board of Health, appeared before the Board. Dr. Julian's report* of the sanitary condition of the State Sanatorium was read, to which Dr. Gordon replied:

DR. GORDON'S STATEMENT.

"1. In regard to there being 'no matron or nurse in the institution,' the explanation is: One reason that there is no matron and no nurse is that we have no place for white help, no means for providing such a place and that it is absolutely impossible to get a nurse or matron there and expect them to live with the inmates of the institution.

"2. That the 'windows and doors are not provided with screens; the kitchen and dining room swarm with flies': Now, if you remember, the appropriation made for this institution was one of the last bills passed by the last Legislature and, if I remember correctly, I called a meeting of the directors perhaps early in April. I was not at that meeting, being unable to attend. Since then we have let a contract to Mr. Dew to screen the windows and doors and also to provide screens to keep out rain, for every apartment in the institution. For some cause he was very slow about it. He got part of the material there and failed to get the remainder. The result was that the doors and windows were never screened, that is, not until now. He is doing this work, now.

*See page 88 for Dr. Julian's report.

"I stayed at Montrose a few days, in order to ascertain the true conditions. I ate in the dining room every meal, save one, while I was there, and there were some flies, but I do not think there was the number of flies indicated by the report here. I have certainly seen a great many more flies than I ever saw in that dining room, and I did not note that there was an unusual number of flies in the kitchen, although I had my own table and there may have been more flies at the other table.

"The food was fairly well prepared, and while I was there the quality and quantity was fairly good.

"3. 'No protection from rain,' etc.: I replied to that a while ago. Last year, when the institution was opened, we curtained the building with heavy ducking strung on wire so that during rains the curtains might be used to protect; but the wind is so strong there that this arrangement was found to be a failure; the ducking was blown off and it was finally taken down.

"4. I do not know when the floors had been cleaned. When I went down there I went to look after the installation of an electric plant. Dr. Brooks informed me that he wanted to go away for a little rest, and asked me if I would look after the patients. I told him that I would do the best I could. He met me at Aberdeen. He did not go out to the institution with me, and told me nothing, leaving me thus uninformed. I introduced myself to the patients, examined them and saw them every morning and afternoon while I was there, in the meantime looking after the building and installation of the plant. My observation is that the cracks in the floors were unusually small, but it is possible that there was some dust and dirt in them. The floors had not been swept the morning Dr. Julian and Dr. Stanton were there, and the beds, I suppose, had not been made up that day.

"I think it but due to Dr. Brooks that I make this statement. The doctor has found it impossible to get efficient help. One of the reasons is the reason already stated, that he has no place to keep efficient help. No one would stay there except inefficient help. He was exacting and insistent on their doing what he said. The only way he kept his cook was by not paying him, so he could not go away. He was dreadfully handicapped. His laundryman would not work for him. When I got there I found the laundry had not been done for some time, and Miss Lock told me she could not get it done. Miss Lock was a patient there who had improved and was acting as matron. She told me that laundry work was needed to be done badly. I asked whom she could get. She said it had been done by a woman, but she had quit and could not be induced to return. I asked regarding the cook, and she said she was a good washerwoman. Miss Lock said if Charlotte, the cook, would do the laundry, she, with the help of William, would do the rest, and so I made arrangements to have her wash the bed linen. I kept Charlotte at that for a number of days. She laundered all the bed linen, except what was then in use. I found the blankets had all been used and needed to be laundered, so I sent for the party that had done laundry work for them since the institution opened there, and she agreed to launder the blankets and the bed linen, as well as to do the laundry work for the patients. I got her to do this work until I left there. All the blankets had been used, but had not been used an unreasonable length of time.

"5. 'Ventilation of the rooms bad': We have a number of windows in the assembly hall, and my observation was that the windows were nearly always

open. At any rate this hall was used very little except for lavatory purposes and writing. The patients sleep out of doors and live out of doors.

"The slops while I was there were kept thoroughly disinfected with bichloride of mercury, and Dr. Brooks claims he has also used a large amount of bichloride of mercury. While they did not look sanitary, they were all right.

"6. 'No bath tubs': Well, there are no bath tubs. We intend to put in shower baths, instead, but have no money with which to put in any.

"7. 'There are two privies. There was no evidence that they have been cleaned. No disinfectants have been found, no covers to stools, and odor offensive.' You can not get any negro in that country to clean out one of these privies for the institution, and the only means was to take a hand from the farm to do it. I asked this man about the privies—he cleans them out—and he said he had been intending to do it for several days. I asked him how long it had been since they were cleaned out, and he said two weeks. I told him to clean them out, and Dr. Brooks has since burned them down.

"8. There is nothing in this to reply to. He states it is crude and also thinks it might have been more sanitary. We admit that; it could have been and should have been. I think Dr. Brooks should have due credit. He had no efficient help and no matron capable of filling the position, because no one would stay there. No trained nurse would stay there. There was no place for colored help, the only place being a pallet in the kitchen and one in the entry or butler's pantry. I think Dr. Brooks should be credited with the fact that no provision had been made by which he could keep efficient help, and he is certainly due the credit of having appeared before the Executive Committee and insisted that the institution be closed during the hot weather and pending the improvements that were contemplated. He insisted on it and one member of the Executive Board was very much opposed to closing the institution, and I think the Executive Board is solely to blame for its not being closed at the proper time.

"The whole thing in a nutshell is this: The Board of Directors, in their zeal to demonstrate to the Legislature the good that could be derived from the institution, permitted the institution to be opened before it was properly equipped—that is, before we had an institution. That was the mistake made, and we feel that the members of the Board realize that now. At the same time we thought it would help us in getting additional appropriation, without which we could not have continued the work. (Dr. Lewis: "It did help.")

"If you will permit me, I should like to express my views in regard to this report. It is no reflection on Dr. Julian. Dr. Julian did his duty as he saw it, and I do not mean to reflect on anybody. At the same time it seems to me that, as officials of the State and in the interest of the entire people of the State, it would be unwise to make a public document of this report, believing, as I do, that it will raise up and interfere, very materially, with any additional appropriation that may be asked for at the hands of the Legislature."

DR. JULIAN'S STATEMENT.

"In the first place, I desire to say that the condition shown us by Dr. Gordon was just as good as it possibly can be and just as nice as his defense today. When I was down there he gave me every opportunity to examine the institution. He very kindly took us over the grounds; and I wish to say that the grounds, elevation and soil are ideal, and that I know of no place in North Carolina that would equal it for this work. These conditions are the best I have ever seen

and the elevation I am sure is sufficient for the treatment of tubercular affections, and in fact I think the possibilities are really greater than in any other place in North Carolina.

"I also wish to say, that there may be no prejudice to my report, that I have had no communications from any one in North Carolina, layman or doctor, in regard to this institution, except from Dr. Rankin, by letter, that I am not in sympathy with any man or men that are trying to get the superintendency of the institution, and that I really had expected to visit Montrose in the capacity of the Assistant Secretary for Tuberculosis, and was glad to make this visit officially, at the request of Dr. Rankin, our Secretary.

"When I arrived at Aberdeen I found the little Rockfish and Aberdeen was in such perfect condition sanitarily; the coaches were so clean, that I made the remark to one of my friends that if we found the institution as well cared for, I would be well pleased. I desire to say this, so that it will be understood that I am not prejudiced.

"I also wish to say that I took the names of every person in the institution before I told them my mission; inquiring into their habits and treatment, and that except for Dr. Gordon, who was held in very high esteem, the treatment was a joke among the patients. They spoke very highly of Dr. Gordon, but the treatment was a joke.

"I looked around for appliances for examination. They had no microscope or stethoscope. (Dr. Gordon: "I had that in my pocket.") One patient complained that he had been in bed two weeks with a temperature of 105 and that he had only had his temperature taken by himself. That the doctor had not taken his temperature all the while. Now, I have in my grip the names of every one who gave me this information. I was told by one patient that from the time he had entered until that day he had never had an examination, percussion, or auscultation, or anything.

"Miss Lock was the only one that did anything at all in the way of a matron. She informed me that she was a patient, without salary, and was left to do as best she could, without directions or orders, except what she received from Dr. Gordon. It seems that they had no cows, and the first churning was done the day I arrived at the institution. The butter and eggs were ordered from Aberdeen and were usually stale. The other food was good. It appears that the visits from the doctor in charge were only from Aberdeen and that he did not remain at the institution. It is also claimed that the beds were changed from one part of the porch to another by a negro man when it rained at night. One patient informed me he had been there thirty-four days and, to his knowledge, there had been no change of linen in that time. Others claimed that the linen had not been changed for about two weeks. The beds on the porches were in disorder. They were turned helter-skelter, the sheets were dirty, and, as Dr. Gordon remarked, after the sheets were used they were thrown up in a heap on an old bed in one part of the porch in an unsanitary condition. It had rained the night before and that part of the porch was wet and in an unsightly condition. A patient informed me that he had accidentally turned his spit cup over on his linen and that the only way he could get rid of it was to wash it out himself. I observed the patients sitting around with rolls of toilet paper near by. They would cough and expectorate into this toilet paper and then slip it into a bag, and after that was filled it was disposed of in the fire. That I saw.

"A patient informed us that the porch had not been swept for a month and

that the rooms had been swept once in two weeks, and that with a dry broom. There was no cloth to moisten the floor. The sweeping was done by dry cleaning. These were patients in advanced stages of tuberculosis, others without temperature and others with temperature and were then huddled in, and of course reinfection could occur with the sweeping, everywhere there was a dry sweeping.

"In answer to Dr. Gordon I should say the talk I had with him was satisfactory and that I have the highest regard for him. He said Dr. Brooks had given him no information in regard to the institution and he was obliged to go to work for himself. He went out there handicapped. They were living there with no method of ordering, except for this woman (Miss Lock), who was a self-appointed matron.

"In regard to the cracks: They were no larger than ordinary cracks. They were not filled like this floor, and all the dirt that could, accumulated in the cracks. The floors should be waxed, and there is no excuse for neglecting this matter, as turpentine and beeswax could easily be mixed together and the floors waxed therewith.

"In answer to that part of Dr. Gordon's defense of Dr. Brooks, wherein he states that he could not get a trained nurse, all that is Dr. Brooks's fault. The report from Whitehaven and like institutions show that the danger of infection of nurses and help is less in sanatoriums than in private houses.

"There is no reason why any physician should fear to sleep in any part of such an institution, and there is no reason why any woman who has been trained as a nurse should object to going to any kind of an institution if she is capable of taking care of it.

"In regard to the kitchen and dining room, the use of the word 'swarm' does look a little harsh, but they were preparing vegetables and the negro cook was spreading them all over the table, and, in the absence of screens, there was no reason why the flies should not be on the food; of course, on the cooked food as well as on the raw. One patient told me that while one of them ate at the table another would keep the flies off with a flybrush.

"I did observe a bed in the dining room, one in the pantry, and one in the kitchen. These were without bedsteads; just piled down on the floor. A negro man slept in the kitchen and a negro woman in the dining room.

"The privies are near the institution. The seat was some distance from the ground and the accumulation of fecal matter extended from the ground to within a few inches of the seat. The seat was without a cover, and no lime or other disinfectant was seen around the privies.

"Besides the sanitary condition, the possibilities are so great that the institution must, in somebody's hands, or by your wise directions, be made an honor to the State of North Carolina. The sanitary conditions of the institution are inexcusable. It is inexcusable to have beds in the condition I found them in, there. It is inexcusable to leave stools from early in the evening until the next day at 12 o'clock, and this I saw.

"Suppose a patient comes there in the more advanced stage of tuberculosis—suppose he should have a hemorrhage at night. Who is to take care of patients at night?"

Resolution: Introduced by Col. Ludlow.

"1st. That the Executive Committee endorse the activity and zeal on the part of the Secretary and Assistant Secretary for Tuberculosis in their investigation and complaint they have lodged against the State Sanatorium for Tuberculosis.

That the Committee, after hearing this report and the discussions, does refer the entire matter to the board of directors of the institution for their further consideration and action. Further, that the Executive Committee, acting in its official capacity as custodian of the public health of the State, the matter having been referred to them officially, recommend to the board of directors of the institution that it shall not be opened for the treatment of patients until the contemplated improvements have reached such a stage that the patients entering can be properly cared for.

“Further: In reference to the complaint lodged by Dr. J. R. Williams, it is likewise referred to the board of directors for their consideration and action.”

The question of sewage disposal at Rocky Mount and Tarboro being brought up, Mr. Battle said:

“It is useless for us to discuss the matter with you on a scientific basis.

“We insist that we are situated 68 miles above the only intake of a public water supply. In view of that distance, the slow flow of the stream, the size of the river at Rocky Mount and Greenville, and the amount of sewage produced by Rocky Mount, your order was entirely unnecessary and we insist that it be revoked. At the same time we know the law,—no sewage shall be turned into a stream from which water is taken below.

“The town of Rocky Mount, without any fault of its own, is entirely out of money with a floating debt of \$20,000. It is absolutely impossible for us to raise that amount of money, in any way. Our only recourse would be to break the sewer entirely and keep sewage from running into the river. This would cause a pestilence in the town, besides ruining our new \$20,000 hotel. We can not consider giving up the sewerage system. The whole matter of sewage purification is in an exceedingly incoherent (?) state; as just shown by the Westinghouse agent. To put our town to an expense that in a year or two would prove to be unwise and inexpedient is unjust and oppressive.

“I would like to file with you the annual financial report of the city of Rocky Mount (gives the Secretary a paper).

“What we wish to do, when our funds permit, is to install a septic tank.”

Mr. Bassett, for Rocky Mount, states financial condition of Rocky Mount:

“Our town has an increased demand of \$8,000, and a decreased revenue of \$12,000, by reason of the prohibition law. The estimated flow of sewage is 150 gallons per minute. The estimated flow of the river is 1.275 gallons per minute. (Reads Section 3058 of Revisal of 1905.) Greenville has filed no complaint. It is absolutely beyond the means of Rocky Mount to install the system required by Colonel Ludlow. (Reads a letter describing the system suggested by Colonel Ludlow.) No engineer would require more of the country of England than Colonel Ludlow requires of Rocky Mount. We will leave this matter in your hands, absolutely assured that we will be dealt with justly and fairly.”

Mr. W. O. Howard, for Tarboro:

"We feel that we are almost unable, in fact, that it would be almost impossible for us to comply with your order. We are poorer than any Eastern town. Tarboro has the highest tax of any Eastern North Carolina town, being \$2.58 per hundred, for the town, county and State. I am here to ask you to revoke your order for the present. With the next meeting of the Legislature we may be able to comply. The system demanded by Colonel Ludlow would require the expenditure of \$68,000 and the annual running expenses would probably be \$1,000. If you can not revoke the order, do not require us to put in such an expensive system. Greensboro has a septic tank which cost only \$2,000. We certainly can not comply within six months. In order to do this, we shall have to make some provision for levying more tax."

COLONEL LUDLOW: If Greenville's filter should fail to work one day, the health of the town would be endangered. I can not possibly weigh the danger to Greenville against the financial condition of Rocky Mount.

On motion of the Chairman, it was resolved that the time for the installation of hygienic purification plants by the towns of Rocky Mount and Tarboro be extended to July 1st, 1910.

REIDSVILLE.

Colonel Ludlow showed chlorin in this supply to be too high at all times.

It was decided that the Secretary should visit Reidsville and look into the matter of their water supply.

On motion the Engineer and the Secretary of the Board and the Directors of the Laboratory of Hygiene were directed to make an inspection of the electrical purification of water and its practical application.

RALEIGH, N. C., February 9, 1911.

Dr. Jno. A. Ferrell, having been recommended to the Rockefeller Sanitary Commission by Dr. Richard H. Lewis and Hon. J. Y. Joyner, was requested by Dr. Lewis to meet Dr. Wyckliffe Rose, Administrative Secretary of the Rockefeller Sanitary Commission in Raleigh, February 8th, 1910.

At this meeting Dr. Rose decided to recommend Dr. Ferrell's appointment, provided the State Board of Health, through its Executive Committee, would approve the appointment.

The following day, Colonel J. L. Ludlow was called up by long distance telephone by Dr. W. S. Rankin, Secretary to the Board, and put into possession of all the facts relating to Dr. Ferrell's appointment. Thereupon he approved the appointment. Dr. Thomas later approved the appointment by letter.

Dr. Ferrell was then appointed by the Rockefeller Sanitary Commission as Assistant Secretary for the Eradication of Hookworm of the State Board of Health. After arranging his local business he came to Raleigh, taking charge of his official duties March 12, 1910.

Annual Session of the Board of Health

WRIGHTSVILLE, N. C., June 21, 1910.

The annual session of the North Carolina State Board of Health was called to order by President Thomas.

Members present: Doctors Lewis, Anderson, Tayloe, Register, Way, Spencer, and Colonel J. L. Ludlow.

Minutes of Asheville meeting June 15-16, 1909, were read. Colonel Ludlow corrected the minutes by requesting that he be not referred to as "Sanitary Engineer of the Board," but as a member of the Board. The minutes were then approved.

The minutes of the meeting of the Executive Committee on August 10th, 1909, were then read and approved.

Letters, under dates of June 2 and June 4, 1910, from Jno. A. Weddell, Clerk of Tarboro, and Hon. T. T. Thorne, Mayor of Rocky Mount, were read. Both of these letters requested an extension of the time previously allowed the towns of Tarboro and Rocky Mount from July 1, 1910, to November 1, 1909. The Board, appreciating the cordial spirit of co-operation expressed in these letters, and accepting in good faith their statement to the effect that it was impossible for them to comply, through no fault of their own, with the requirement for installing sewage purification plants by July 1st, passed the following motion introduced by Dr. Lewis:

"Moved that the towns of Tarboro and Rocky Mount be granted an extension of time to January 1, 1911, for installing sewage purification plants."

As above stated this motion was carried. Dr. Lewis suggested that the Secretary remind the above towns to submit to the Board plans of the proposed purification plants according to Section 3058, Subsection (b), before proceeding with their installation.

The minutes of the approval by the Executive Committee of Dr. Jno. A. Ferrell's appointment as Assistant Secretary for the Eradication of Hookworm were read and approved by the Board.

Dr. Way officially notified the Board of the death of one of its members, Dr. James A. Burroughs, and moved that a committee be appointed to draft suitable resolutions regarding his death. Dr. Way was then appointed by President Thomas a committee of one to prepare such resolutions.

Dr. Anderson moved that Mr. H. W. Simpson be re-elected a member of the Board of Embalmers. This motion was unanimously carried.

Dr. Lewis moved that the Board go into the election of a new member to fill the vacancy made by the death of Dr. Burroughs.

Dr. Way nominated Dr. J. E. Ashcraft, of Monroe, for this position. Dr. Ashcraft's nomination was seconded by Dr. Spencer and Colonel J. L. Ludlow. Dr. Register made a number of commendatory remarks concerning Dr. Ashcraft. Dr. Ashcraft was then unanimously elected.

President Thomas then appointed Colonel Ludlow and Dr. Spencer an auditing committee to audit the accounts of the Treasurer of the

State Board of Health and the State Laboratory of Hygiene. The accounts, statements, checks, and receipted bills were then turned over by the Treasurer to Dr. Spencer.

Dr. Spencer moved that the meeting be adjourned. The motion was carried.

W. S. RANKIN, *Secretary*.

Conjoint Session of the North Carolina Board of Health with the Medical Society of the State of North Carolina, at Wrightsville, June 22, 1910.

PRESIDENT G. G. THOMAS, CHAIRMAN.

REPORT OF SECRETARY STATE BOARD OF HEALTH.

Mr. President, Members of the North Carolina State Board of Health, and Members of the Medical Society of the State of North Carolina.

I have the honor to submit herewith my annual report as Secretary of the North Carolina State Board of Health as authorized by Section 4442 of The Revisal as amended by the Legislature of 1909.

My first record is a sad one, namely, to note the death of the lamented Dr. James A. Burroughs, a member of this Board and late President of this Society. Dr. Burroughs heard the summons of our common adversary, and on December 28, 1910, fell in the front line of the battle of science against death. His death leaves a vacancy on the Board of Health which should be filled at this meeting.

The most important, as well as the most encouraging, change that has taken place since our last meeting is the continued and vigorous growth of the public interest in the question of health. This growing interest finds expression through several sources.

Medical inspection of schools, carried on during the last three years and including schools in England and in various parts of the United States with an aggregate of about one million pupils, has shown that 20 per cent of the children have defective eyes, 5 per cent of them have defective ears, and about 10 per cent defective throats. The large number of children examined and the extensive geographical distribution of these statistics establish a condition that is general. So large a number of physical defectives in the schools means the retardation of the entire school; means a tremendous loss through the retardation of all the children, and the inability of a large number of children to use what is taught them; means that many physical defectives are unjustly punished, whereby many sweet dispositions are soured and many characters are twisted. These facts, together with the general growth of public health interest, have gone a long way in causing the school people to recognize the fundamental value of health and in making of them one of the strongest forces in the public health movement.

Through the deep interest of State Superintendent of Public Instruction Joyner, your Secretary has addressed both the Association of County Superin-

tendents of Public Instruction and the North Carolina Teachers' Assembly, in addition to several teachers' institutes, on the question of public health. The November issue of the BULLETIN was a teachers' edition and dealt with the relation of the public school to health. Four thousand North Carolina teachers are on the mailing list of the BULLETIN. In December your Secretary prepared a pamphlet dealing with the construction and care of sanitary schoolrooms and the examination of children by teachers for defective eyes and ears. The major part of this pamphlet was taken from a similar publication prepared several years ago by former Secretary Lewis. This pamphlet was issued and distributed by the State Department of Public Instruction. In February of this year another pamphlet on the subject of tuberculosis was prepared by Assistant Secretary C. A. Julian. This was published by the State Department of Public Instruction, but, on account of some delay, it was thought best to wait until the next public school year to distribute it.

While, at present, the study of sanitation and preventive medicine is not prescribed in the public school course, many influences are at work toward this end. The teachers are feeling the effect of the popular demand for health study, and in many schools health is receiving attention in one way or another. I am led to believe, from a recent conversation with State Superintendent Joyner, that at the next meeting of the Board for the Selection of Text-books, some time during the year 1911, the subject of sanitation and preventive medicine will be prescribed for the public school system.

At the request of Superintendent Joyner, a series of sixty health talks, covering the subject of public health, will be prepared during the summer for the public school teachers. The talks will be published in convenient form for the use of the teachers, and distributed. The teachers will use them as the basis for three ten-minute talks to the school each week on the subject of health.

In this connection I wish to call your attention to and ask your support for the School Betterment Associations. These associations, now established and active in many counties, are doing much for public health by insisting on better sanitary conditions in and around schoolhouses.

Many physicians have made health addresses before schools and teachers' institutes during the last year, and, in this way, have contributed much to the public welfare. Permit me to commend this practice to all those physicians whose public interest is seeking a wider sphere of usefulness.

The churches, along with all other organized influences, have deepened their interest in the question of health, and many pulpits have contributed largely to the cause of more efficient and cleaner living as a means of better preparation for the other life. In March of this year a special Preachers' Bulletin was issued for Sanitary Sunday, April 24th. This Bulletin contained the endorsement, for its use by the preachers of various denominations, of many of the leading clergymen in the State. I am sure this Bulletin was used by many of the pulpits, and I desire here and now to make grateful acknowledgment of this fact.

The press of the State is showing its awakening sense of responsibility for public health by more frequent expressions on this subject. Your Secretary had the pleasure of addressing the Press Association on their relation to the public health, at their recent meeting in this place. They seemed to be deeply interested and promised their cordial coöperation with the State Board of Health for health improvement. I am quite sure that the press is becoming seriously interested in this problem, and their interest will go a long way toward creating a demand for a better health administration, local and State.

The American Tuberculosis Exhibit, under the direction of Mr. E. G. Routzahn, has been at work in our State since March 15th. It has already given three exhibitions of three weeks each, in the cities of Greensboro, Raleigh, and Winston-Salem. It will go to Durham later this summer, and it is hoped that Charlotte will secure the exhibit for the fall. The effect of this exhibit is to tremendously augment the local health interest wherever it is given, and to create a general interest in health in the surrounding country.

Last, but by no means least, of the organized influences that have seriously interested themselves in better health is the State Federation of Women's Clubs. At their recent annual meeting in Henderson your Secretary addressed them on the subject of public health, and they expressed their deep concern in the cause by passing resolutions emphasizing its importance and organized a Health Department of the Federation. Mrs. W. N. Hutt, of Raleigh, was made chairman of this department.

The MONTHLY BULLETIN OF THE BOARD OF HEALTH has been increased in its circulation from 3,500 to 11,500, and its mailing list includes all the doctors, preachers, lawyers, and 4,000 of the 10,000 school teachers in the State. There are, in addition, a number of other names on the mailing list. The BULLETIN also reaches most of the newspapers of the State.

The Legislature of 1909 passed three important public health measures: A law relating to the control and care of public water supplies, a law requiring the registration of all deaths occurring in towns or cities having a population of a thousand or more at the last decennial census, and a law providing for the distribution of diphtheria antitoxin to the indigent. Former Secretary Dr. Lewis has already called attention, in the March (1909) BULLETIN, to the nature of these laws. All of them have been put in operation during the last year.

The law relating to water supplies requires the authorities of every public water supply to file certified duplicate plans and surveys prepared according to rules and regulations furnished them by the Secretary of the State Board of Health. Of the 63 public water supplies of the State, 45 have complied with this requirement. Eighteen have not complied, and the attention of the solicitor has been called to the infringement of this law in the case of one company, the other fourteen having rendered acceptable excuses for their delay. This law further requires the authorities in charge of all public water supplies to make quarterly inspections of their watershed, where the water supply was surface water. The inspections, likewise, to be made in accordance with rules and regulations furnished by the State Board of Health. It has been found necessary to request the aid of the solicitor in only three cases to enforce the law requiring quarterly inspections. With a few exceptions, the laws protecting public water supplies have been enforced without the least friction.

The rules and regulations for making plans and surveys were prepared by Sanitary Engineer Ludlow. They have been published in the form of Circulars A, B, and C, and Form A. Circular A is a small pamphlet citing the authority requiring plans and surveys and stating what data should be shown in the plans and surveys to make them comply fully with the law. Circular B cites the law governing the conduct of residents on the watershed, and lays down the necessary rules for their guidance in complying with the law. Circular C gives instructions to the sanitary inspectors necessary for a proper sanitary report, which last is made out on Form A. These circulars and Form A have been published and distributed to those concerned.

In this connection, I feel that, as State Health Officer, I would violate my sense of duty and my public trust if I failed to make grateful acknowledgment of the cordial, untiring, and almost unlimited assistance rendered me in my efforts to protect the public water supplies by the Sanitary Engineer of the Board, Colonel J. L. Ludlow. His able service has been given so unstintedly to the public water supply interest that I feel like it is a considerable imposition on the part of the State to accept these services further without some material compensation.

The law protecting public water supplies also applies to springs selling water either at summer or health resorts, or in bottles. This law requires that these springs shall pay a graduated tax or procure a license, through which revenue the State Laboratory of Hygiene shall be enabled to analyze the waters of these springs. The law further provides that if any bottled water be found polluted in three successive analyses, that publication of that fact shall be made in the MONTHLY BULLETIN OF THE STATE BOARD OF HEALTH. Very little trouble has been experienced in collecting these taxes. The following bottled waters have been found polluted and notice of their pollution has been given the public through The BULLETIN.

SMITH LITHIA WATER,
BUFFALO LITHIA WATER,
VERONICA SPRINGS WATER.

Our vital statistics law, pronounced by Chief Statistician of the United States Bureau of the Census, Dr. Creesy L. Wilbur, to be the only practical vital statistics law "in the South," has been in operation since September, 1909. This reliable authority and Federal Government executive for enforcing laws requiring death registration, made an inspection of the results of the enforcement of our vital statistics law, through a personal visit and examination of the certificates filed in the office in Raleigh in the early part of April. It is encouraging to those of us concerned in its execution to know that he was thoroughly pleased with its enforcement. This leads us to believe that North Carolina will, at a very early date, be accepted by the Federal Government as a registration State. As you know, the vital statistics law applies only to cities and towns with a population of one thousand or over, according to the last decennial census. According to this restriction, our vital statistics law applies to an aggregate population of 448,206. The death rate for this population during the three months from January to April was 16.1. In order that you may compare our death rate with other places, I will state that the death rate for the registration area of the United States, embracing 48 per cent of the population, averages 15.1 per thousand for the year of 1908. The annual average death rate per thousand for the seventeen States in the registration area is as follows:

California	18.4
Colorado	17.0
Connecticut	15.4
Indiana	12.3
Maine	16.0
Maryland	15.5
Massachusetts	16.5
Michigan	13.8
New Hampshire	16.3

New Jersey	15.4
New York	16.3
Pennsylvania	15.7
Rhode Island	16.2
South Dakota	10.1
Vermont	16.0
Washington	14.8
Wisconsin	11.6

The law providing for the distribution of antitoxin to the indigent is fully considered in the report of Dr. C. A. Shore, Director of the State Laboratory of Hygiene, under whose care the administration of this law has been entrusted.

The health of the State since our last meeting has suffered no unusual loss, with the possible exception of smallpox. There has been the usual amount of acute contagious diseases. Typhoid fever has had its usual unnecessary prevalence. Epidemics of typhoid have been investigated by the Board in New Bern, Rockwell, and Brevard. All of these epidemics were small, their cause easily and fairly well ascertained, and their control prompt and satisfactory. The epidemic at Brevard was investigated by Dr. Way, who was assisted in the investigation by Dr. Goode Cheatham. His report is on file. The other epidemics were investigated by the State Health Officer, and reports of all three epidemics will be published in the Biennial Report of the Board of Health. Dr. Joseph F. Patterson, who, with Dr. J. S. Primrose, of New Bern, assisted in the investigation of the epidemic in New Bern, has published in the April BULLETIN a full report of the epidemic in that place.

Smallpox has been unusually prevalent throughout the State during the last year. There are still doctors who call a disease chickenpox that ninety-nine doctors out of a hundred call smallpox. If they know no better, they deserve pity, but I fear that in too many cases their diagnosis is influenced more by unwise commercialism than by scientific principles.

With the kindly coöperation of twenty-five health officers, I collected and published some data in the February number of the MONTHLY BULLETIN which will indicate the origin of the State-wide epidemic, and in addition will give some idea of the cost of the disease.

Here I wish to go on record as opposed to the present method of handling smallpox. I am opposed to the quarantine of smallpox, and my disapproval of this practice rests upon the following reasons:

First. Because quarantine gives a false sense of security, thereby tempting many who would otherwise be vaccinated to forego this certain protection. Quarantine in this way favors the substitution of an uncertain for a certain protection. Example: a victim of smallpox turns up in the town of X. The first thought in many instances is to conceal the case; if this fails, it is conspicuously stated that the disease is safely quarantined. In either case, the unvaccinated population, either ignorant of the existence of the disease or relying upon the quarantine, take no precaution. The fuel upon which the disease blazes into an epidemic remains without protection. On the other hand, suppose that when the case turns up in X it is boldly announced and placarded. It is at the same time understood that no quarantine will be established; that the disease may tomorrow be met in the post office, court-house, market place, school, church, or other public place; then nearly everybody will be vaccinated and there will be but little smallpox fuel to keep the disease smoldering.

Second. I said "*nearly everybody*" would be vaccinated. Who, then, will make the small minority? Two classes of people: The first class are those whose sense of responsibility for community health is such that they are more influenced by the anticipated slight personal discomfort of a sore arm than they are influenced by considerations of the public weal. The second class are our esteemed friends who do not believe in the protective power of vaccination. To these science is dumb and experience is a liar. And yet to protect these two classes, we quarantine. To protect them, when they alone last year spread the disease all over our fair State and put the State to an expense of \$40,000 to \$50,000. Do these civic irresponsibles deserve an altogether unnecessary expenditure of \$50,000 by those who have discharged their civic obligation in the matter of smallpox? My answer is No!

Third. Minnesota and South Carolina have both abolished quarantine in smallpox and the result has been highly satisfactory to both States. Their experience indicates that there are fewer cases without quarantine than with it. Minnesota in 1907, when she quarantined the disease, had 1,535 cases; the next year, without quarantine, there were 473, and in 1909 there were only 269 cases.

A national authority said to me in March of this year that the weakest point in the public health work in this State was the county and municipal health administration. I agree with his diagnosis. I respectfully ask your attention to what seems to me to be one of the principal causes of weak local health government.

In many counties and towns (note that I didn't say in all) the position of county superintendent of health and municipal health officer goes to the man who will carry—not always discharge—the responsibilities of health officer for the smallest salary. There is in this way injected into the profession a species of bidding against each other, a practice under any other circumstances considered very unethical. It is certainly unbecoming the dignity of our profession and tends towards professional disorganization and deterioration. And, on the other hand, the cheapest doctor is not always the best man for the local public health interests; as a rule, he is just the reverse. This effort to secure the cheapest man as health officer has reduced the compensation of the local health officer so low that in many places only a few will accept the office, and a large number of those accepting complain, when called upon to discharge some official obligation, that their salary will not justify their going to the necessary trouble. Cheap health officers are hurtful to both parties to the contract, to the profession and to the public.

Now, if it is both wise and proper for the profession to say that a member shall be in good standing only so long as he recognizes the right of the majority to fix fees for both private and contract practice, then it would seem, to my humble judgment, that it would be both wise and proper for the profession to say that its members should be in good and regular standing only when they observe rules laid down by the profession regulating the fee paid by the public for service rendered. The salary or fee paid by a county or town to its health officer, of course, would be graduated on the amount of taxable property and the number of people living within the health officer's jurisdiction.

That you may have some idea of the compensation of health officers, I submit the following figures as representing conditions in fifty-five counties from which I have recently obtained figures. The average county spends per capita on public health .0192; the maximum spent by any county on health is .09, by Durham

County; the minimum spent by any county on health is .002, Alleghany County. As the State spends .0062 per capita on health, the maximum spent by any county on health is .0962, by Durham, and the minimum spent is .0082, by Alleghany; the average spent by *both* State and county, per capita, is .0254.

Estimated on a basis of taxable property instead of per capita, the maximum spent by any county is .035 per \$100 taxable property, by Pamlico; the minimum on the same basis, .001 by three counties, Robeson, Burke and Alleghany; the average per county spent for public health per \$100 taxable property is .61. As the State spends .0025 per \$100 taxable property, the most spent in any county on a basis of taxable property, State and county combined, would be .0375, by Pamlico County; the least spent on the same basis by any county would be .0035, by Robeson, Burke and Alleghany; the average spent on same basis would be .0125.

As soon as the data for the other forty-three counties are obtained, a table showing the total public health expenditure of the different counties will be published.

On October 26, 1909, Mr. John D. Rockefeller, having investigated the claims of Stiles and others regarding the prevalence and economic importance of hookworm disease, decided to donate one million dollars to be used by a commission for the eradication of this disease. This is the largest public health appropriation ever made for the eradication of a single disease, and its importance rests upon its deeper significance, namely, that philanthropists are beginning to realize the fundamental value of health conservation. This magnificent gift will be appreciated by the Southern people who have the public interest deeply at heart, and it is to be hoped that it will be used so wisely that its results will be so evident that others may follow the example of Mr. Rockefeller.

On February 9, 1910, Dr. John A. Ferrell, of Kenansville, County Superintendent of Health of Duplin County, having been highly recommended to the Rockefeller Sanitary Commission by Dr. Richard H. Lewis and Hon. J. Y. Joyner, was appointed Assistant Secretary of the State Board of Health for the Eradication of Hookworm Disease, subject to the approval of the State Board of Health. Drs. Lewis and Thomas and Col. J. L. Ludlow, composing the Executive Committee of the Board, approved the appointment of Dr. Ferrell, and he was declared elected.

Dr. Ferrell will make a report of the work so far accomplished, and the work planned, in the eradication of this disease.

During the first part of September, your Secretary visited and inspected the administrative offices of a number of Northern public-health organizations. These included the New York City Board of Health, the National Tuberculosis Association, the Lederle Laboratories in charge of Dr. Herbert Pease, former director of the New York State Laboratory of Hygiene; the Massachusetts State Board of Health, the Rhode Island State Board of Health, and the Bureau of the Census at Washington. From the officials in charge of all these offices the most cordial treatment was received, and the large number of helpful suggestions more than justified the time and expense of the trip.

While in New York, with Sanitary Engineer Ludlow, the Gerard Ozone Process Company was visited, for the purpose of examining the process of ozonation as a practical method for water purification. This visit was authorized by the August (1909) meeting of the Executive Committee of the Board.

We found this method of purification still in the experimental state, and, as

compared with the sodium hyperchlorite method, too expensive for practical purposes under present conditions.

An inspection of the State Sanatorium in July, 1909, found the institution in an unsatisfactory sanitary condition. Since then many improvements have been made, and it is hoped and believed that its condition and management will be much more satisfactory in the future than it has been in the past.

Reports from the Laboratory of Hygiene by Director C. A. Shore, from the Assistant Secretary for Eradication of Hookworm, John A. Ferrell, and from Assistant Secretary C. A. Julian for Tuberculosis, and the Financial Report of Treasurer W. S. Rankin are herewith appended.

Drs. Shore and Ferrell will read their reports before the Society. The other reports will be read if desired.

REPORT OF DIRECTOR OF STATE LABORATORY OF HYGIENE.

I beg to report the following work done in the twelve months from June 1, 1909, to June 1, 1910:

Three thousand nine hundred and forty-eight specimens have been examined in the laboratory (against 2,382 in the preceding twelve months).

Six hundred and fifty-five examinations of feces were made.

	<i>Positive. Negative.</i>	
Hookworm	248	384
Ascaris lumbricoides	9	
Amœbæ	1	5
Strongyloides intestinalis	1	
Tania saginata	2	
Tricocephalus dispar	4	
Hymenolepis nana	3	
Fly larvæ	3	
Blood	2	1
Cancer cells	0	1
Tubercle bacilli	4	10
516 examinations of sputum for T. B.....	168	348
377 examinations of diphtheria; uncertain, 4.....	187	186
264 examinations blood for Widal reaction.....	121	143
69 examinations blood for malaria.....	1	68
34 examinations pus for gonococci.....	13	21
6 examinations pus for other bacteria.....		
148 examinations of brains for rabies.....	90	58
4 examinations of renal calculi.		
2 examinations for worms.		
88 examinations of pathological tissue.		
1,680 examinations of water.		
11 examinations of sewage.		
2 examinations of blood for leucocytosis.		
92 examinations of urine.		

This shows an increase of 66 per cent over the preceding twelve months.

These examinations are, with two exceptions, made free of charge for any registered physician of the State. These exceptions are the examinations of pathological tissue and of urine. After consultation, it was decided that a

laboratory fee should be charged for these, and it was fixed at \$5 for the former, and from \$1 to \$5 for the latter.

There were also some special analyses of sewage made for the cities of Tarboro and Rocky Mount, by Miss Allen, the chemist, and for which a fee of \$10 was charged. There were eleven of these samples analyzed, and on each fifteen different chemical determinations were made, entailing a large amount of work.

In addition to the examinations of specimens, 165 patients received the Pasteur anti-rabic treatment. Seven of these left before the treatment was completed, making 158 who received the full treatment. Besides these, a very large number of persons consulted us about dog bites, but we were able to advise them that treatment was unnecessary.

In accordance with an act of the last Legislature to provide diphtheria antitoxin to indigent persons, 49 counties and 13 cities have availed themselves of the opportunity to obtain antitoxin at a very reduced rate for their poor. The State Laboratory of Hygiene acts as a distributing depot, and ships, on demand, the antitoxin to any point. By the contract with the manufacturers, the special rate can only be obtained for indigent cases and when paid for by the county or municipality. The benefits of the act do not apply to that largest class of the population, the independent poor—those who do not want to be classed with the indigent, yet can ill afford to pay the high prices charged for diphtheria antitoxin. It is therefore recommended that the Legislature be requested to furnish diphtheria antitoxin to all its citizens free of charge, or, at least, to arrange to furnish it through this laboratory to all its citizens at actual cost. It is possible that the latter arrangement could be made without change in the law, and it is recommended that a new contract be sought with this in view.

It may be desirable ultimately for the State to manufacture its own antitoxin; but meanwhile the same good can be accomplished at approximately the same cost, if the Legislature sees fit to buy all the antitoxin needed for its citizens.

In accordance with the desire of the Board of Health to work in harmony with the Rockefeller Sanitary Commission, it was agreed that the examinations of specimens should be made in the State Laboratory of Hygiene. The Director was authorized to employ men as needed, whose salary should be paid by the Sanitary Commission. On June 9th Mr. W. A. Shaw was regularly employed for this work and a table and apparatus furnished him. Dr. Ferrell thinks that in a short while the number of specimens will be so largely increased that other assistance will be needed.

On September 1, 1909, Mr. C. F. Kirkpatrick was added to the laboratory force, and has proven to be an able assistant.

In December Miss Ethel Waitt succeeded Miss Massey as stenographer and clerk; the increased work, especially the keeping of the antitoxin accounts, necessitating more help than could be given in a couple of hours each day.

The most important development during the year has resulted from the law requiring the analysis of all bottled and other commercial waters. A large number of analyses had shown the necessity for some control over the traffic of waters bottled at well, and provided with a label which promised cure for all affections of the kidneys, bladder, alimentary tract, and liver, for rheumatism, typhoid, malaria, and for skin diseases. It seemed but fair that such water should be clean. Nevertheless, it is not unusual to find intestinal bacteria in these waters. In the case of three, repeated analyses showed the presence in abundance in every bottle examined, and in accordance with the law Dr. Rankin

published the fact in the MONTHLY BULLETIN. The result has been a general and widespread effort, not only in this State, but in others, to cleanse the springs, and to improve the bottling plants. A marked improvement in the condition of the water has resulted.

Since March 1, 1908, 3,000 water analyses have been made in the laboratory. A study of these reports furnishes some interesting figures.

In making up our statistics only samples of drinking water are considered, and therefore the statistics are based on only 2,874 analyses. The remaining 126 represent analyses of raw water, of boiler water, or partial analyses to determine the alkalinity.

	Bad.	Questionable.	Good.	Total.	Per Cent Bad, Approximate.
Pump.....	70	37	207	314	.22
Bucket.....	261	115	86	462	.56
Wells (not known whether pump or bucket)...	63	33	85	181	.35
Springs.....	44	22	54	120	.36
Cisterns.....	1	1	20	22	.05
Private Supplies (totals).....	439	208	452	1,099	.40
Municipal.....	80	188	1,218	1,218	.05
Bottled Waters.....	56	41	192	289	.19
Totals.....	575	437	1,862	2,874	

I shall not bore you by reading the complete statistics, but will endeavor to give only the salient results.

One thousand four hundred and eighty-six analyses of public water supplies have been made, and 5 per cent of these were considered bad. With one or two exceptions, the samples furnishing the 5 per cent have come from nine of the sixty-three municipalities provided with a public water supply. These nine are the supplies at High Point, Wadesboro, Lumberton, Southern Pines, Mount Airy, Hot Springs, Hendersonville, Fayetteville, and the Dilworth supply at Charlotte. The other fifty-four cities send almost invariably a good sample. It may be well here to call attention to the fact that a laboratory examination should not be considered the only safeguard for a water supply. It is true that a sample, if polluted, will inevitably show it on examination; but only a rigid control of the watershed will guard against the possibility of pollution. For instance: a pollution may be removed for many successive days by a properly working filter, only to pass into the mains on some day of carelessness or accident. For this reason the control of the watersheds which is now given to the Board of Health is of great importance.

Compared to the 5 per cent in the public supplies, the bottled waters show 19 per cent bad water, while the private family supplies show a percentage of 40 per cent bad. It should be remembered that these wells and springs are examined because they are suspected, yet the percentage is large, and when we still further analyze these figures the result is significant and, I think, quite instructive.

The pumps show pollution in 22 per cent, while the bucket wells stand forth with 56 per cent polluted. Now, there is an explanation for this which shows

at once the cause. It is this: the pollution gets in at the open top of the well. This may occur by direct drainage of slops into the well, or filth may fall or be thrown into it. But even when these things are guarded against, pollution occurs by means of dirty hands on chain and bucket. If the fingers that are washed in the bucket have just come from the typhoid bedside, so much the worse for the next person who uses the well.

Fortunately, the remedy is simple and inexpensive. It is the substitution of the driven pipe for the old open well with chain and bucket. Except in crowded towns and cities, it is exceptional to strike an underground vein of water which is polluted, and it is only necessary to drive the pipe sufficiently deep to escape the surface water in order to get a pure supply.

We have still to beg your attention to a few words on rabies.

It is a reproach that this disease still exists in our country. Of all diseases it is, perhaps, the most easy to obliterate. It is the disease, above all others, which can be abolished by legislative enactment. An enforced law requiring the muzzling of every dog that runs at large, whether in the city or the country, would make rabies an unknown disease within a few years. It is now very widespread in our State, and, in fact, in the most of the eastern United States. The wonder is, not that there are so many persons applying for the Pasteur treatment, but that more are not bitten. I know that every word spoken on this subject is criticised as the utterance of an alarmist, but the facts can not be controverted. Each year more than 150 inhabitants of our State are forced to take the Pasteur treatment because they have been bitten by rabid animals. This number probably increases only slightly from year to year. In the year 1907 there were more than 150 persons from North Carolina who were treated in one Pasteur institute in another State. Since this work has been taken up by the State Laboratory of Hygiene we have received the heads of rabid animals, mostly dogs, from fifty-three counties, and are reasonably sure that there have been rabid animals in four others. Even this is not the whole truth, for it is probable that few counties have escaped.

There have been at least four human deaths from rabies in North Carolina during the past twelve months. One of these was a child living near Rocky Mount, N. C.; the second a young man living at La Grange; the third a boy at Durham, and the fourth, only a few weeks ago, was a young man at Hope Mills.

The case from Durham was bitten by a dog whose head was sent to the laboratory and a definite diagnosis of rabies made. Three other young men were bitten, and were treated, but the father of the unfortunate boy relied upon a "mad-stone."

No appropriation for this work has ever been made to the Laboratory, and without the kind assistance of the Hygienic Laboratory of the Public Health and Marine Hospital Service the work could not have been carried on. A fee of \$50 is charged, but the treatment is furnished free upon submission of affidavit of inability to pay. Only a trifling per cent of the patients have considered themselves able to pay. It is recommended that this fee be changed to \$10.

In want of a satisfactory dog law, the only resource in dealing with the disease is the killing of all dogs and cats known to have been bitten, and I will close by the reading of a law whose existence on the statute books seems to be little known:

Revisal of 1905, Vol. I. Chapter 81, Section 3305: "If the owner of any dog shall know, or have good reason to believe, that his dog, or any dog belong-

ing to any person under his control, has been bitten by a mad dog, and shall neglect or refuse immediately to kill the same, he shall forfeit and pay the sum of \$50 to him who will sue therefor: and the offender shall be liable to pay all damages which may be sustained by any one, in his property or person, by the bite of any such dog, and shall be guilty of a misdemeanor, and fined not more than \$50 or imprisoned not more than thirty days."

REPORT OF JOHN A. FERRELL, M.D., ASSISTANT SECRETARY FOR ERADICATION OF HOOKWORM DISEASE.

Mr. President and Gentlemen:

You are no doubt familiar with the relationship of the North Carolina Board of Health and the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease. Perhaps the reading of a part of the resolutions adopted by the Commission in this connection will not, however, be out of order. This resolution granted to the North Carolina Board of Health the salary and traveling expenses of an Assistant Secretary for the Eradication of Hookworm Disease. It stipulates that: "This grant to be allowed on condition that the Assistant Secretary be appointed by the joint action of the State Board of Health and the Rockefeller Sanitary Commission; that he devote his entire time to the eradication of hookworm disease; that he work under the general supervision of the State Department of Health and report to the Administrative Secretary, and that he serve as the administrative head of the campaign against hookworm disease in the State of North Carolina."

Being selected to fill the office provided for in accordance with the above resolution, I assumed the duties of the office on March 12th of the present year. Since that time I have

(1) Endeavored to become familiar with the status of hookworm disease in North Carolina:

(2) Planned a campaign and endeavored to secure reliable assistants who will execute it;

(3) Prepared pamphlets bearing on the various phases of hookworm disease, and, whenever practicable, made talks bearing on the subject.

STATUS OF HOOKWORM DISEASE IN NORTH CAROLINA.

Stated briefly, I beg leave to report:

1. More than six hundred North Carolina college students have been examined for hookworm disease. They represent all sections of the State. More than one-third of them were found infected. These were residents of fifty counties.

2. Letters, together with blanks and stamped envelopes for replies, were sent to the doctors of the State, nearly 2,000 in number. up to June 14th replies from 350 of them were received. One hundred and sixty-seven of these have never treated a case of hookworm disease; 183 have. The latter report having treated approximately 3,032 white and 243 colored cases of the disease, a total of 3,275. In ten counties of the State no cases have been reported; however, we have no records indicating that any particular search for it has been made.

3. The doctors indicate a willingness to co-operate in the crusade against the disease, request literature on the subject, and are using the Laboratory of Hygiene to have microscopic diagnoses made.

4. Ground-itch is a manifestation of hookworm infection. The skin is the

chief point where infection enters the system, though, perhaps, not the only one. A history of ground-itch usually implies hookworm infection for the succeeding ten years, sometimes longer.

5. Where sewer systems are habitually used we find the disease rare. Elsewhere the families of tenants and landlords are alike infected. Going barefooted, and the use of poor privies, or no privies at all, are factors pointing to a high degree of infection. The majority of cases show the infection between the ages of five and twenty-five; and from the tenth to the fifteenth years the percentage of infection is highest.

6. Probably one-fourth of the rural population of North Carolina are infected. The highest percentage of infection is found among those of school age, who should be developing physically and mentally.

The plan of campaign, in brief, which thus far we have undertaken to inaugurate is as follows:

1. The State will be divided into sanitary districts, to be known by number, each to be composed of five or six counties; that is to say, there will be sixteen or eighteen sanitary districts.

2. Five practical men, physicians of experience, who will carry weight with the medical profession, the teaching profession, editors, local improvement associations, and the laity at large, will be appointed and known as field agents, or district superintendents to assist in the campaign. They will devote their entire time to the campaign against hookworm disease.

3. Each field agent will be assigned to a sanitary district, and held responsible for the advancement of the campaign in his territory. He will be expected to co-operate with the doctors, rendering assistance in making investigations wherever desired, with teachers and all other forces which may lend a helping hand toward making the facts concerning hookworm disease, and methods for its eradication, common knowledge. He will be equipped with a portable microscope and literature bearing on the disease: and, wherever practicable, will make examinations free for diagnosing the disease. Those found infected, other than indigent cases, will be directed to their family physician for treatment.

4. Assistants in the Laboratory of Hygiene at Raleigh will send out mailing cases on request for specimens of feces and make free examinations for the presence of hookworm eggs in the stools.

5. Literature on the subject suitable to the needs of all classes will be prepared and in every available way placed in the hands of the people.

6. The campaign, as planned, will cost approximately twenty thousand dollars (\$20,000) annually, and of course will use up in a short while North Carolina's proportional part of the Rockefeller Fund. If each of five field agents covers five counties, only about one-fourth of the State will be reached by them. Five counties, however, is as large a territory as one man can very well effectively cover; in fact, one county will offer opportunities for long and diligent work.

For the remaining summer months it has been deemed advisable to have the field agents cover a broader field than their regular district, endeavoring to arouse enthusiasm among potent factors, who will organize and, without the regular aid of the field agent, promote the crusade of hookworm eradication. The field agents will endeavor to reach the meetings of the county medical societies and join in discussions of the various phases of hookworm disease. They will attend the teachers' institutes, which by law the teachers are required

to attend. Editors and others who may render aid will be seen and interested as far as possible in the work. Perhaps, in many localities, local leagues may be formed to promote the crusade.

RECOMMENDATION.

Realizing the inestimable annual loss to the State in lives and dollars occasioned by the existence of hookworm disease, I respectfully recommend that you ask the State to help mend the leak through which its wealth is escaping by providing funds which will enable us to put a field agent in every sanitary district in the State. Ask the State to, at least, invest two dollars in its welfare for every dollar donated by private individuals for this purpose. A conservative estimate giving the annual loss occasioned by hookworm disease in the State appropriation for public schools alone is given in the May BULLETIN. This item alone shows an annual loss of \$187,500 to the State.

DR. LEWIS: *Mr. President*: I wish to express my appreciation of these admirable reports. It is perfectly manifest to every one that an immense amount of intelligent work has been accomplished. It is the pride of my life, sir, and I feel the crowning work of my career as health officer, to realize that I have been instrumental in the discovery and in securing the employment, for the State, of these splendid young men. It is a gratification that I shall always carry with me, and I shall feel safe that the cause is in competent hands, and that they will advance the flag into the enemy's country.

DR. BAHNSON: *Mr. Chairman*: May I be excused for saying that one gentleman has been omitted from the list whom we would be delighted to put upon it and welcome to the new set and that is Dr. J. L. Nicholson, of Richland.

Report adopted with Dr. Bahnson's amendment.

Meetings of the Executive Committee

RALEIGH, N. C., August 4, 1910.

The meeting was called to order by Dr. Thomas. Members of Committee present: Dr. Thomas, Dr. Lewis, and Colonel Ludlow.

Delegation from Rocky Mount: Mr. L. V. Bassett, Mr. Thomas H. Battle, Mr. T. T. Thorne, Mr. R. R. Gay, and Mr. A. S. Lyon.

Delegation from Tarboro: Mr. W. O. Howard, Mr. W. D. Clark, and Mr. E. P. Meredith.

MR. BASSETT, representing Rocky Mount, said: "We have with us our engineer who has investigated this matter very thoroughly and has computed the cost of the various plans of sewage purification suggested, and will present these to the Board fully and clearly. I have a very definite view as to what is the preferable thing to do, but we are still laboring under that very great disadvantage under which we were laboring when we were before the Board some time ago. The cost of installing a thoroughly up-to-date sewerage plant will be heavy at this time; the town of Rocky Mount has overdrawn its bank account \$15,000. So the question is, not what we would like to do, but what it is possible

for us to do, and whatever the Board of Health instructs us to do we will undertake to do if possible. Mr. White, who has investigated the matter fully, will now present the facts to the Board."

MR. WHITE: "I have some plans here; before going into them I will give you the sheets, showing the analyses of the sewages of Rocky Mount and Tarboro and the daily flow. (Distributes plans, maps and copies of analyses.) You will notice that the maximum flow at Rocky Mount is about 400,000 gallons per day, and the minimum about 200,000. No observation has been taken on Sunday on account of a misunderstanding. The Sunday flow will probably be slightly less than that given. The maximum flow at Tarboro is 50,000 gallons per day, and the minimum in the neighborhood of 20,000. The conditions in the two places are somewhat the same. The flow of the river rises about seven feet above the outfall line. The only difficulty we would have in following the scheme outlined in this plan, which would effect the results as called for in the letter which Colonel Ludlow wrote—calling for the removal of 85 per cent of the organic matter—is that it would require a plant which would be located at the outfall in both Rocky Mount and in Tarboro. I mention these things in order to show that it is pretty much the same in both places.

"In order to put in a plant to effect the removal of 85 per cent of the organic matter from the sewage at Rocky Mount, it would be necessary to first pump the sewage to a higher level. Since pumping is necessary and the outfall is located so near to the town, so near to a part of the suburbs of the town which will be built up and especially along the railroad track, it is, in my opinion, desirable to take the sewage for treatment at least three thousand feet down the river from the railroad track for the reason that it is necessary to get that far away in order to be a half mile from the built-up portion of the town.

"It will require, in addition to the pumping plant, a sedimentation basin giving from eight to ten hours sedimentation and a sprinkling filter to be operated at the rate of two and a half million gallons per acre per day. A plant of that kind will cost Rocky Mount more than \$33,000, but by using the maximum rates of filtration and putting in only what is absolutely necessary at this time, the cost can be reduced to about \$21,000. The cost of operating such a plant would be not less than \$50 per month, plus a dollar a day for attendance. It would not be necessary for the attendant to devote his entire time to looking after the plant.

"Now we find, in the first place, that the scheme for purifying sewage is subject to numerous changes; that is, there have been so many developments in the methods which might make a plant that is five years old unsuited to give the best efficiency. In 1905 there were only ninety purification plants in the United States all together, showing that it is a very recent development, and at that time there was only one sprinkling filter west of the Mississippi river, and I do not believe there were any in the South, showing that the sprinkling filter, which is the very best filter, is a very recent thing. In looking further into the subject I find that in the last few years there have been, since 1905, to be particular, a large number of experiments conducted under

conditions as nearly practicable as possible, experiments on the disinfection of sewage effluents, of sprinkler filter effluents, and of sand effluents. These experiments have been conducted largely at Boston. There have been some experiments on contact bed effluents in Ohio; there have been some at Baltimore, some in New Jersey, and other places. Those are the chief instances, however. The experiments on the disinfection of crude sewage at Boston show that by the addition of 10 parts per million of available chlorine as derived from bleach, 99.96 per cent of the pathogenic bacteria were removed from the crude sewage. Now, as we understand it, the danger that confronts Greenville is an epidemic of typhoid fever, due to contamination from Rocky Mount sewage and Tarboro sewage, due to the fact that that sewage contains pathogenic bacteria. Well, that being the case, if we can remove 95 per cent or 90 per cent of the bacteria from the crude sewage we have actually given Greenville greater protection than by the removal of 85 per cent of the organic matter along with 80 per cent or 85 per cent of the bacteria and 80 per cent or 85 per cent of the pathogenic germs. If this be so,—and we have a good deal of literature that supports our contention,—and such a scheme can be put in cheaper, it would seem to me that it would be best for everybody concerned to put in a disinfecting plant. I recognize the fact that nobody wants sewage emptied into their water supply regardless of what the sewage contains. It is a question in my mind as to whether most of the organic matter is not removed before reaching Greenville through oxidation. I believe that a very large percentage is gotten rid of in the flow of 69 miles, which we assume is the correct distance. In these experiments on crude sewage, we find that the greatest amount of work is done by the disinfectant in the first fifteen minutes. The table which I hand you, shows a removal of 90 per cent in fifteen minutes. The maximum is effected in from one hour and a half to two hours. There is an increase in bacteria immediately following the two hours, so that at the end of four hours there are more bacteria than there were at first. But the evidence seems to be that there are no pathogenic bacteria left; the evidence seems to show that the pathogenic bacteria do not develop in sewage and do not multiply in a river such as Tar river. That seems to be the opinion that is expressed in a Bulletin by Mr. Phelps. That being the case, if we remove 90 per cent or 99 per cent from the crude sewage we have lessened to that extent the danger of producing disease in the town of Greenville. The sprinkler filter will effect a removal of about 80 per cent of the organic matter.

“We could locate a plant for disinfecting the crude sewage on the present outfall without pumping the sewage. In disinfecting crude sewage the most important thing is to keep the sewage stirred up. We have a scheme that will effect that; the only weakness I see is this (to be perfectly frank with the committee), the larger particles may not be broken up into fine enough pieces to permit of the necessary penetration for thorough disinfection. We could break it up sufficiently by means of a pump. That is the condition under which the experiments that I spoke of were made. We have a scheme for getting the agitation that is subject to overflow by the floods of the river. The water, as I say,

risers about seven feet over the outfall, consequently the water would rise about eight feet over this tank.

"We can build a plant of that kind for \$3,000. I have a plan here that consists of a tank twenty-two feet square, the drawing of which will explain itself. As you can see, it is designed to cause the larger and more solid particles of sewage to be mechanically disintegrated. I think there is not doubt we could get a thorough stirring up of the sewage with such a scheme, because we could get a velocity of three feet per second, which would lift a pebble the size of the end of one's thumb. It would be necessary for us to put in a screen to take out any sticks, rags, trash, etc. Now, if we have a little hose on the first compartment and have a mixing tank for mixing our bleach and a constant head on the orifice to which the float is connected, the operation of that float would regulate the discharge of the solution. Now, as I see it, that plan is subject to these disadvantages, the overflow by the river and the fact that we may have particles there, upon the center of which the bleach would not have its effect. I do not know, nobody knows, what percentage of removal of bacteria you could get from that scheme. If we get 99 per cent from the other we would not be far wrong here in assuming that we would get 80 per cent, and that would be as much as we would get with the sprinkling filter. The sewage would, of course, go into Tar River through the present outfall.

"If we put in a septic tank we could, of course, disinfect the effluent of the septic tank which would not have any large particles. But the septic tank would be subject to floods, and the sewage from Rocky Mount would probably give us a scum. When the river would rise this scum would rise also and, unless we build the walls of our tank above high water, it would spread all over the ground. If we build the walls of our tank above the ground, above high water, then the scum would rise in the tank and would go down as the flood receded and leave the sides of the tank coated. This could be washed down with a hose.

"There is another scheme for disinfecting the crude sewage that I have thought of, and that is, since experiments show that the greatest work is done by the bleach in the first fifteen minutes, and we find that it will take twenty minutes for the sewage to flow from the last sewer connection on the outfall down to the river, if we could agitate the sewage with a pump and put our bleach in at a point up in town and depend on the flow of the sewage in the outfall line to do the proper mixing, additional to that of the pump, we could get about 80 per cent removal of bacteria from that scheme. That does not appeal to me as much as the other one. We have tried to think about the problem in every way. We recognize the fact—I do—that, if there is ever a question of removing the organic matter from the sewage, we will have to have a septic tank and sprinkler. That being the case, the best scheme that could be followed from a financial standpoint would be to install a pumping station and a septic tank at the point where we propose to place the pumping station, and we have plans made up for the sprinkling filter plant. We have a plan made for the disinfecting plant also. As I see the situation, this meeting is to reach an understanding as to

what is best to be done. Then, when we reach that understanding, we will be able to make our plans on those conditions and give the results.

"As for the Tarboro plant, we found it would not do, of course, to handle the sludge from the septic tanks in the city limits. A septic tank might create a nuisance there. We found it necessary also to select a site a half mile from the town of Tarboro for its disposal plant. The fact that Tarboro has no day current made it necessary for us to put in a collecting tank and a pumping station to pump the sewage over to the site of the filters. On account of the small amount of sewage from Tarboro the most economical plant is a sand filter, and there is hardly any use in our discussing its advantages. I would suggest that Tarboro should filter in the beginning at the rate of 200,000 gallons per acre per day. The usual rate in Massachusetts, where they do things right, and better than most anywhere else, is a little under 100,000 gallons. In the experiments made at Boston they effectively purified Boston sewage on sand filters at the rate of 400,000 gallons per day, and the filter was only two feet deep. We propose to make ours three feet deep and get local sand without separation of the different sizes, limiting the size of the sand between 14 mm. and 40 mm. Such a sand I think we can find locally without any trouble.

"There is one feature in connection with this problem to which I wish to call your special attention, and that is to the fact that the sewage of Rocky Mount and Tarboro both are very weak. The sewage of Rocky Mount is hardly more than half as strong as standard American sewage. It is about half as strong as Boston, therefore its purification would be a simpler problem because the work that the filter would do depends upon the amount of organic matter in the sewage. For that reason we may be able to reduce our plans to smaller sizes than is customary. We can operate our filter continuously without any harm. If we happen to get a slightly less purification I believe it would make very little difference."

DR. LEWIS: "Mr. White, did you state the actual cost of operating the sewage disposal plant?"

MR. WHITE: "The operation of the disposal plant would cost not less than \$50 per month for current expenses, about \$35 for attendance, and \$33,000 for the first cost, our idea being to reduce the cost to \$21,000. The cost of disinfecting crude sewage will be \$3,000 for the tank, \$30 per month for attendance, and about \$.50 per day for the disinfectant. If we are obliged to put in the pumping station and septic tank, that cost would be about \$13,000, with the same cost of operation. It would be necessary to build the tank about 16 feet deep. If we build one tank circular for a 12 hour flow it would cost about \$4,000; it would be a little over one-third additional in the cost. My idea is that if a septic tank is required, and if there is the slightest probability of there ever being required any further purification of the organic matter, the place for the septic tank is not where the floods would interfere. The cost of the Tarboro plant would be \$13,000, excluding an extra filter bed, which will cost about \$1,800. The cost of the Tarboro plant could be reduced to \$11,000, the cost of operating it would be about \$15 a month, and the cost of attendant would be about \$30."

(Col. Ludlow reads the original letter of instructions to the town of Rocky Mount regarding the installation of the sewage purification plant. Mr. White reads the letter received from towns of Tarboro and Rocky Mount, specifying the degree of purification necessary.)

MR. WHITE: "As bearing on this problem in a general way, I wish to cite the case with which perhaps some of you may not be familiar. It is a very recent decision. I have here a copy of a report of the Hon. William J. Magie, Special Master, to ascertain the cost of sewage disposal plants and sterilizing plant for the protection of the water supply of the city of Jersey City. Jersey City had a contract with the East Jersey water company, by which the water company was to supply at all time a pure, wholesome, drinking water; I think it was about 40,000,000 gallons daily. Relying on sedimentation and the action of the sunlight to get rid of harmful matters in the water, this company delivered water all the time, but there were a few days when it was not satisfactory; therefore, action was taken by the city to prevent payment to the water company of the contract price. The engineers for the city wanted the water company to put in sewage disposal plants to prevent the pollution of the river water. The engineers of the water company claimed that the sewage disposal plant would not effect a removal of this pollution, and that, besides, the place to remove the pollution was at the water plant instead of in the towns where the pollution originated. They wanted the court to allow them to try disinfection of the water supply, using about one-half of one part per million of hypochlorite of calcium as derived from bleach. They put in the plant. They effected practically a complete removal of the dangerous infection. (Reads the case.) We will infer that if Greenville should have trouble they should install such a plant. They are getting good results at Greenville.

"There were 400 sewerage connections in Rocky Mount in March; 200 in Tarboro."

MR. BASSETT: "On August 1, 1910, the city account was overdrawn to the extent of \$15,489.33. The bond issue of Rocky Mount is \$230,000. The city now owes the bank \$15,000. It will probably get out of debt by end of 1911.

"We have every disposition to cooperate, but seriously doubt if it will be possible for us to raise funds for the \$30,000 plant. We prefer a permanent plant, but doubt if Rocky Mount can build it at the present time. All sewage purification systems are in the experimental stage, and so it is the desire of the authorities that they be allowed to deal with this matter in the least expensive manner. We are going to do our very best."

MR. THORNE: "Br. Bassett is correct in regard to the spirit of Rocky Mount. We know the sewage can be fixed, but just how it is to be done,—we know is a question about which experts differ. Until you know the kind of medicine to give, for the Lord's sake, don't give us too big a dose. We will not be out of debt until Christmas, 1911, if everything goes on with no extra expense. It appears that we are not going to be able to make a costly deal, and inasmuch as these matters

are passing through a stage that today is and tomorrow is not, and two or three years from now some one will come along and say the thing is all wrong, we would like to be allowed to put in the cheaper plant."

DR. THOMAS: "If you built the cheaper plant and found it a failure, then where would you be?"

MR. THORNE: "If the \$35,000 one should be found a failure, then where would we be? Then, we may be better off in eighteen months."

COL. LUDLOW: "So far as transition of progress is concerned, all things are in a transitory stage in life—scientific life * * *."

MR. WHITE: "* * * I believe sewage purification is as far advanced as the science of medicine."

DR. LEWIS: "Could Tarboro manage the \$13,000 proposition?"

TARBORO.

MR. HOWARD: "Tarboro asks the committee to require only the cheaper system, or give us time to get the money to put in the system required. We want to put in whatever system in the judgment of the Board seems best. At the present taxation we will hardly have money enough to meet expenses for the coming year. There would be difficulty in raising money by a bond issue. The town is not growing, in fact it has practically stood still for the past ten years, and we can only issue bonds by legislative enactment. Tarboro now has the poorest system of water in the State, and it is used now practically for sewage purposes alone. We wish to install the septic tank. We want to purify the sewage, and the only question is, what can we do? We can not get money without legislative enactment, can not get land necessary without condemning same. We would like, therefore, to install the cheapest system possible. Let us try the disinfection plan, and if that does not work out we can make a change after the meeting of the Legislature."

DR. LEWIS: "What you want to do is to be allowed to collect the sewage at the sewage outlet? What would be the cost of this tank and additional tank for disinfection?"

MR. WHITE: "Over \$5,000, I think."

DR. LEWIS: "Will it require pumping?"

MR. WHITE: "No. The problem would be that of disposing of the sludge. This will have to be cleaned out once every three or four weeks. There is no intermediate plan between \$13,000 and the plain disinfecting tank."

DR. RANKIN: "If the tank is unsatisfactory Greenville will appeal to the courts and make figure heads of the Board of Health, and, at the same time probably cause you gentlemen to put in a more expensive plant."

MR. WHITE: "The enormous amount of water going down Tar River in the time of floods would make the danger of pollution less."

MR. BASSETT: (Replying to Dr. Rankin.) "We are leaving this matter to the State Board of Health with every disposition to conform absolutely to such orders as the Board shall make. If we conform to the action of the Board Greenville will have no action against us, unless it can be proven that we have created a public nuisance. Col. Ludlow's

suggestion of \$35,000 is altogether beyond the reach of Rocky Mount. No court would cause us to stop emptying the sewage into the Tar River and thus cause an epidemic in Rocky Mount."

COL. LUDLOW: "The law says, 'some well known system.' Would we be justified in calling hypochlorite of lime a well known system?"

MR. WHITE: "It is well known that in disinfection of crude sewage it will do the business. We know that. I do not know of a plant that has been installed. I consider the matter a fact of science."

MR. BASSETT: "I do not think the courts would place so narrow a view on the statute."

DR. LEWIS: "Would that be a jury case?"

(General discussion. No conclusion.)

COL. LUDLOW: "Does Mr. White know of a single plant established?"

MR. WHITE: (Reads conclusion of experiments by Earle B. Phelps, "Water Supplies," 229, U. S. Geological Survey.) "The experiments are practically uniform."

COL. LUDLOW: "Is there great necessity for care of the plant?"

MR. WHITE: "The results from any plant depend upon proper operation."

MR. BATTLE: "How about the electrical process, investigation of which was required at the meeting a year ago?"

DR. RANKIN: "That was found impracticable."

(General discussion of question of bond issues.)

DR. LEWIS: "How long has Rocky Mount had a sewerage system?"

MR. BASSETT: "Seven years."

DR. LEWIS: "Tarboro?"

MR. HOWARD: "Ten years. Greenville has had water supply from Tar River about five years."

MR. THORNE: "How is Greenville's water now?"

MR. WHITE: "Good."

"We are in a position to make any changes in our plans immediately, without delay. After the decision the plans will be changed and presented to the Secretary."

Adjournment.

Meetings of the Executive Committee.

RALEIGH, N. C., August 4, 1910.

The following resolutions were introduced by Col. J. L. Ludlow, and unanimously adopted:

Resolved, That the committee is disposed to permit the installation of the most economical system of sewage purification that will be effective and insure the protection of the public health.

That the committee is not satisfied that the simple treatment by hypochlorite of lime will be a sufficient treatment to meet the demands of the public health, or that such treatment supplemented by a settling tank would be sufficient.

That in the interest of securing the most economical and effective system, the committee will withhold its decision in this matter for the present until the

town of Rocky Mount shall have had an opportunity to submit to said committee a report upon the problem by some sanitary engineer of such expert knowledge as to justify the committee in accepting his judgment.

That the judgment of such expert must be based upon careful investigation of the matter in all its details.

That the committee suggests as suitable experts the names of Mr. George C. Whipple, Mr. Allen Hazen, or Mr. Earl B. Phelps.

That the committee further suggests that the report of this expert be submitted to them not later than September 15, 1910.

On motion of Dr. Lewis the Executive Committee then adjourned.
W. S. RANKIN, *Secretary*.

RALEIGH, N. C., October 24, 1910.

Meeting of the Executive Committee in Raleigh, N. C. Dr. Thomas in the chair. All members present. Purpose of the meeting to pass plans for the sewage disposal for the towns of Rocky Mount and Tarboro.

Dr. Rankin reads resolutions passed by committee at last meeting.

Mr. Bassett speaks for Rocky Mount and Tarboro. This pursuant to the resolutions just read. These towns secured Mr. Earl B. Phelps, who made a thorough investigation for Rocky Mount and Tarboro, and his report was submitted to the committee. He further states that his plans were prepared according to the resolutions just read.

Mr. C. E. White, engineer for the town of Rocky Mount and Tarboro, reads the report of Mr. Phelps, which is as follows:

MR. R. R. GAY, *Chairman Committee on Water and Sewage, Rocky Mount, N. C.*

DEAR SIR:—I have been requested by your engineer, Mr. Gilbert C. White, to make an investigation and report on the question of sewage disposal for Rocky Mount. Specifically I am asked for an opinion as to whether a disinfection treatment of chloride of lime, with or without supplementary tanks or screens, but without more elaborate treatment upon filters, would satisfy the demands of the public health under the present conditions and those of the near future.

I visited Rocky Mount on the 11th and 12th inst. and made a careful study of the local conditions. In addition to the knowledge thus gained, I have been supplied by your committee and your engineer with all available data concerning the sewerage system, population, rate of growth, and distances from other towns below. Comprehensive weir measurements and several analyses of samples of sewage, and maps of the city and a portion of the drainage area of the Tar River have been placed at my disposal. I beg to make first a brief summary of the facts upon which my opinion in this matter is based.

Rocky Mount is situated upon Tar River about forty-five miles by water above the town of Tarboro and seventy miles above the city of Greenville. From a report of the North Carolina Geological Survey upon water power in North Carolina, by Swain, Holmes and Meyers, published in 1899 as Bulletin No. 8, I obtain the following facts (p. 115 *et seq.*):

The drainage area of the Tar River above the mouth is about 3,000 square miles, above Tarboro, 2,290 square miles, and above Rocky Mount 768 square miles. Between Rocky Mount and Tarboro there enter the river from the north,

Swift Creek and Fishing Creek with drainage areas of 350 and 760 square miles respectively. The minimum stream-flow recorded at Tarboro during the summers of 1896, 1897 and 1898 was 170 sec. feet. From figures showing the minimum horse-power available during the driest recorded season I obtain a minimum stream flow at Rocky Mount of 120 sec. feet. These values are equivalent to 110 and 78 million gallons per day respectively, and may be taken as typical extreme low-water conditions. Information was furnished me in regard to the operation of the mill wheels which indicated that a flow of less than 200 million gallons per day at Rocky Mount is looked upon as an unusual occurrence. The average annual rainfall upon the watershed is 47 inches. The slope of the river below Rocky Mount averages from 1 to 1.5 feet per mile.

The sewerage system of Rocky Mount consists of 6.7 miles of sewers, with 400 connections, serving a population of about 2,000 people. At the present rate of increase it is believed that there may be 3,500 persons connected with sewers in 1915. Surface water is excluded from the sewer as far as possible, but there is a considerable leakage of ground water indicated by the increased flow during storms. Weir measurements of the sewage flow taken at frequent intervals during several days showed an average flow of 275,000 gallons per day and a maximum flow for one or two hours at the rate of 400,000 gallons per day. Analyses of the sewage confirm the fact indicated by the high per capita flow, namely, that there is a considerable proportion of ground water in the sewage. The sewage is weaker than the average sewage of American cities, and probably not more than 200,000 gallons per day of this recorded flow represents actual sewage.

I have been asked also to take into consideration in this study the conditions at Tarboro as well as those of Rocky Mount, and I understand that the same sanitary considerations are involved in both places. I will therefore include in my statement of facts the conditions which I found there upon personal inspection and conference with the authorities.

Tarboro has about 2.9 miles of sewer with 150 connections serving a population of about 750 people. New connections are being made at a very slow rate. The average dry weather flow of sewage is found by weir measurements to be 40,000 gallons per day. Analyses furnished me indicate a weak sewage.

In addition to the above stated facts, there are certain principles in sewage disposal which guide me in arriving at an opinion in any given case. I beg to submit these to your consideration in order that you may see the reasoning upon which my opinion is based.

There are three different kinds of nuisances or harm which may follow from the discharge of untreated sewage into a stream. In any particular case one or any two of these or all three may be present and, according as one or the other is involved, we alter our methods of treatment to conform to the needs of the situation.

First, there is the possibility of disease germs being emptied into the stream. This possibly is always present when an untreated sewage is discharged and, to a less extent, when filter effluents are discharged into a river. If the water below is used for purposes of domestic supply, even with filtration, it is the belief of the most advanced sanitarians of the day that untreated sewage ought not to be discharged. The wisdom of our State laws and Board of Health rulings is nowhere better exemplified than in their efforts to prevent the bacterial

pollution of drinking water streams. In this endeavor they deserve the heartiest co-operation of every citizen and every community.

The remedy for this class of danger lies in efficient filtration through sand or in chemical disinfection. The effluent of a trickling filter as ordinarily built would also require disinfection before it could be safely discharged.

A second possible nuisance lies in the danger that the solid material contained in sewage may deposit upon the bottoms and banks and by accumulation give rise to offensive putrefactions. The velocity of the current, not its volume, is the controlling factor here. The remedy for this class of nuisance lies in efficient screening and a short period of sedimentation for the removal of solids.

A third class of nuisance is due to the putrefiable nature of the sewage material. Unless the volume of diluting water be sufficiently great this will give rise to offensive conditions constituting a physical nuisance. In this case the relative volumes of water and sewage are factors. While our knowledge is limited as to just how far it is safe to go in utilizing a stream for purposes of sewage dilution, experience has established the fact that a stream flow of 7 second feet or 4.5 million gallons per day to each thousand persons contributing sewage gives a dilution which will effectively prevent nuisance.

Applying these principles to the facts in the present case, it is readily seen that if the sewage of Rocky Mount can be carried as stated to the intake at Greenville in less than one day, then a danger of the first kind is present and disinfection either with or without treatment is called for. In my opinion, the presence of the Rocky Mount sewage in the river constitutes a menace, small, it is true, but ever present and increasing, and under any plan of treatment, unless it be by a most efficient filter, disinfection should be applied.

A consideration of the rather flat slope of the river profile below Rocky Mount leads me to believe that a nuisance of the second kind may also be produced, temporarily at least, by the deposit of material especially in the slack water along the shores. I would recommend that coarse screening and a short period of sedimentation be given, and in addition to this I recommend, and shall later describe, a special form of tank whose function is to break up the larger particles.

A study of the relative discharge of stream and sewer indicates to me that even under the most extreme conditions of dry season flow in the stream and maximum possible flow in the sewer, the margin of safety is so large that no possible nuisance of the third class will arise. Allowing an unusually low stream flow of 80 million gallons per day and a contributing population which in 1915 may amount to 4,000 persons, an excessively generous allowance, we would still have at Rocky Mount a flow of 20 million gallons per day per thousand contributing population, or 4.5 times the dilution recognized as a safe one.

The critical point in the stream is the point just below Rocky Mount. Between this point and Tarboro the watershed is increased three-fold and the stream flow is doubled at least. Therefore, what applies to the situation at Rocky Mount also applies with greater force to Tarboro.

I recommend for the treatment of the sewage at both Rocky Mount and Tarboro the following system:

1. A short period grit and screen chamber in which the velocity of flow shall approximate 0.4 feet per second for not over 20 seconds. Screens not wider than one-inch openings.

2. A detention tank having a storage period on the normal flow basis of two hours. This tank should have a hopper-shaped or conical bottom with slopes of at least 45 degrees. The sewage should enter from above at a point near the bottom and flow vertically upward, overflowing by small weirs in the periphery. The object of this tank is to break up the larger pieces of material by attrition. The heavier particles collect near the bottom and are constantly washed by the incoming flow of sewage. They are thus gradually broken up into fine material, which is carried off by the current.

Scum boards should protect the overflow weirs, and a sludge pipe should lead from the point of the tank, or if preferred preparation may be made for removing the sludge by hand pumping from above.

3. Disinfectant mixing tanks and house. There should be two cement tanks having a capacity of 400 gallons each, and so designed that after the mixing has been made the clear supernatant liquid may be drawn off continuously and at a rate that shall be automatically regulated and constant. Each tank will hold a twenty-four-hour supply of solution. It is not advisable in small works to attempt to adjust the rate of dosing to the rate of sewage flow.

4. A disinfection tank, which may be of any convenient shape, having a capacity of not less than one hour on the normal flow basis. The essential feature of this tank is that about one-third of it is baffled from the rest in such a way that all heavy or floating particles are retained there and subjected to the continuous action of the fresh disinfectant solution until disintegrated. The solution is added to the sewage as it leaves the first detention tank (2). The sewage is discharged from a point midway between the top and the bottom of the last tank. From time to time the sludge accumulating in the tanks will have to be removed and cared for. The amount to be so treated may be expected not to exceed one-half a cubic yard per million gallons. The effort throughout should be to prevent the passage of large particles through the tanks. If they are held sufficiently long, then the disinfection will be satisfactory. Not over 250 pounds of bleaching powder per million gallons of sewage will be necessary. At your present rate of flow, 70 pounds per day will suffice. I recommend that frequent tests of the plant be made until the proper and economical amount of disinfectant shall have been determined.

In conclusion, therefore, I beg to state that in my opinion the disinfection of the sewage of Rocky Mount with bleaching powder in a plant essentially as described and with proper preliminary treatment and with final storage of one hour's duration will solve the sewage disposal problem of your city and meet all the demands of the public health for many years to come. All dangerous germs will have been destroyed and all gross suspended solids will have been removed. These two classes of material are all that are involved in the present problem.

My conclusions regarding Tarboro are exactly the same. The plant will necessarily be smaller and smaller amounts of bleaching powder will be needed.

Respectfully submitted, (Signed) EARLE B. PHELPS.

New York City, August 27, 1910.

Mr. Bassett stated that Mr. Phelps was furnished with a copy of the resolutions before making his report.

A letter from Mr. Earle B. Phelps to Mr. R. R. Gay, of Rocky Mount, approved of the plans submitted by engineer White. This letter is herewith filed.

Mr. White read letter from Mr. Phelps.

Mr. White submitted copies of analyses from Dr. Shore, showing conditions of water one-half mile above and one-half mile below the towns of Rocky Mount and Tarboro, respectively. These analyses are herewith filed. Samples marked Nos. 1, 2, 3, 4 and 5 and the water at points that were taken down the stream.

Col. Ludlow asks that engineer White go over the plans with the Executive Committee while the representatives of Rocky Mount and Tarboro are present.

Mr. Battle, of Rocky Mount, asks to enter as a part of the data submitted for consideration, the qualification of Mr. Phelps as an expert as stated in "Who's Who" for the year. Also filed article in the *Textile Manufacturer* on "Water Filtration as applied to Textile Industries."

Mr. White stated that three months should be allowed for the installation of these plants.

Mr. Wooten, of Greenville, expressed the appreciation of his town for what we have been doing and says he does not see that we could do anything more.

Col. Ludlow asked what assurance of the efficiency of this treatment Rocky Mount and Tarboro will furnish the State Board of Health.

Mr. White said that it would be impossible, on account of the human element, to guarantee the 99 per cent purification, but contended that this degree of purification while desired is practically impossible of accomplishment.

Mr. Battle said that Col. Ludlow's request is hypercritical.

Mr. Battle contended we should accept the report of the expert that we have suggested to make the report, and not go further and condition our approval of the plans upon their proven efficiency as shown by the analysis of the sewage effluents.

Col. Ludlow explained that he simply wanted some assurance that the attendant of the filter plant will faithfully perform his duties.

Dr. Lewis suggested that our power to make inspections at any time is sufficient precaution against inefficiency in the management of this plant, in other words, our authorized right to make inspections whenever and wherever we deem it necessary will obviate the danger suggested by Col. Ludlow.

Mr. Wooten did not think it unreasonable but thought it advisable that analyses of the sewage effluent be made from time to time to show the efficiency of the plant.

Dr. Lewis moved that the plans submitted by the towns of Rocky Mount and Tarboro be accepted, with the understanding that the Board shall exercise such supervision as to satisfy itself of the faithful and efficient operation of these plants. This motion was unanimously carried.

The meeting then adjourned.

(Signed) W. S. RANKIN.

Secretary.

Opinions of the Attorney-General

MAYOR OF COUNTY TOWN AND CHAIRMAN OF BOARD OF COUNTY COMMISSIONERS
MUST SERVE ON SANITARY COMMITTEE.

HON. T. W. BICKETT,
Attorney-General,
Raleigh, N. C.

RALEIGH, N. C., May 12, 1909.

MY DEAR SIR:—I am enclosing a copy of a letter received from the Hon. T. C. Bowie, of Ashe County.

I am at a loss to understand why the Chairman of the Board of County Commissioners of Ashe and the Mayor of the county town should be exempt from the duties required of them by the law of selection a physician each to, together with the Board of County Commissioners, complete the County Sanitary Committee. I therefore write to ask your opinion as to the proper course to be pursued by us in the premises in order that the law shall be carried out.

I enclose, for your convenience, a pamphlet containing the laws relating to the public health to date. Section 4444 of The Revisal is the section bearing upon this point.

A reply at your early convenience will greatly oblige,

Yours very truly, RICHARD H. LEWIS,
(Per W. S. R.) *Secretary.*

RALEIGH, N. C., May 20, 1909.

DR. R. H. LEWIS,
Raleigh, N. C.

DEAR SIR:—I beg to acknowledge the receipt of yours in reference to the situation with respect to the Sanitary Committee and Superintendent of Health in Ashe County. I beg to advise that, in my opinion, it is mandatory upon the Chairman of the Board of County Commissioners of Ashe County and the Mayor of Jefferson to appoint two physicians to act as members of the Sanitary Committee as provided by section 4444 of The Revisal of 1905. If the officers named persist in refusing to appoint the physicians as required by law, they can be proceeded against by mandamus, and possibly by indictment for failure to perform their official duty.

If the Sanitary Committee of Ashe County shall fail to elect a County Superintendent of Health by the first Monday in July, then it would be the duty of the State Board of Health to appoint a County Superintendent of Health for Ashe and fix his compensation. The practical way out of the trouble presented by the letter of Mr. Bowie is for the Mayor of Jefferson and the Chairman of the Board of County Commissioners to designate two physicians to act in conjunction with the Board of County Commissioners as a Sanitary Committee, and then let this committee elect as Superintendent of Health the man already named by the Board of Commissioners of Ashe County.

Very truly yours, T. W. BICKETT,
Attorney-General.

SALARY OF COUNTY SUPERINTENDENT OF HEALTH.

HON. T. W. BICKETT,
Attorney-General,
Raleigh, N. C.

RALEIGH, N. C., May 14, 1909.

MY DEAR SIR:—I would thank you very much for an opinion as to the proper course to be pursued under the circumstances detailed below.

In County the incumbent County Superintendent of Health put in his application for re-election at a salary of three hundred dollars a year. The County Sanitary Committee, or at any rate that part of the said committee represented by the Board of County Commissioners, notified him that they had re-elected him at a salary of \$225.00. This the Superintendent declined, as being entirely inadequate. The Commissioners then tried every other physician in the county, and they every one refused the office. The idea of calling in a physician to do the work whenever, in their judgment, he was needed, was discussed, I understand.

Now I would like to know whether the County Sanitary Committee has a right to practically abrogate this most important office, as it seems they can do by making the salary so small that no self-respecting physician can accept it. That has been done in some instances before, the salary being absurdly small, and the result being that no physician in the county would take the place.

I would like, also, to know if it is legal for them to conduct the sanitary work in their county in the loose, haphazard method of employing various doctors to do what they think ought to be done.

Under the circumstances named, would it be the duty of the State Board of Health to appoint a County Superintendent of Health and fix his salary, under section 4444 of The Revisal of 1905, as amended by the last Legislature?

A reply at your early convenience would greatly oblige,

Yours very truly, RICHD. H. LEWIS,
 (Per W. S. R.) *Secretary.*

RALEIGH, N. C., May*20, 1909.

DR. R. H. LEWIS,
Raleigh, N. C.

DEAR SIR:—I am in receipt of your letter of May 14th with reference to the County Superintendent of Health of County. It appears that the Sanitary Committee of this county duly elected a Superintendent of Health and fixed his salary at \$225. It further appears that the physician elected declined to serve for less than \$300.

This presents a situation which I do not think the State Board of Health has power to relieve. It can only elect a Superintendent of Health when the Sanitary Committee of the county shall fail for two months to elect one. But in this case the committee of County has elected a Superintendent and he declines to serve on account of an alleged inadequacy of salary. There is a difference between the physician and the Sanitary Committee of seventy-five dollars. This difference I do not think the State Board of Health can adjust. To hold that the State Board of Health can, in a case of this sort, fix the salary would be to substitute its judgment for the judgment of the Sanitary Committee upon the value of the services to be performed by a superintendent of health in

any given county. I do not think the Legislature intended to confer this power on the State Board of Health, but intended to leave the matter of compensation to the discretion and good judgment of the folks at home, so long as they were willing to exercise that discretion.

This may produce an awkward situation here and there, but it is an evil which ought to be left to the lawmaking power of the State to remedy if they shall consider that an evil exists.

Very truly yours,

T. W. BICKETT.

Attorney-General.

COUNTY SANITARY COMMITTEE.

HON. T. W. BICKETT,

Attorney-General,

Raleigh, N. C.

RALEIGH, N. C., May 31, 1909.

DEAR SIR:—I am sorry to trouble you again, but I am especially desirous to have the obscure points in our health law cleared up before I turn over my work to my successor.

The question I wish to ask and have you decide for us is:

In Yancey County the Chairman of the Board of County Commissioners reports that it is impossible to get two physicians to serve as members of the County Sanitary Committee, and that, in consequence, that organization can not be completed. He advises that the Board of Health appoint the present incumbent. I would like to know whether under the circumstances as indicated, where the Sanitary Committee can not be completed by securing the services of two physicians, named in the law, the Board of County Commissioners would constitute the County Sanitary Committee, having power to elect the County Superintendent of Health, or whether under such circumstances the Board of Health should appoint.

Thanking you for an opinion at your early convenience, I am,

Yours very truly, RICHARD H. LEWIS,

Secretary.

DR. RICHARD H. LEWIS,

Secretary State Board of Health,

Raleigh, N. C.

RALEIGH, N. C., June 3, 1909.

DEAR SIR:—Replying to yours of the 31st, I beg to advise that it is my opinion, under section 4444 of The Revisal, that it is the duty of the Chairman of the Board of County Commissioners and the Mayor of the county town to select two physicians, one to be selected by each official, to serve with the County Board of Commissioners as a county sanitary committee. If the physician first designated by the proper official will not serve, another should be named. If only one physician can be found to serve, then that physician and the County Commissioners will constitute the Sanitary Committee. If no physician can be found to serve, then, in my opinion, the County Commissioners will constitute the Sanitary Committee and will have the right to appoint a Superintendent of Health.

Very truly yours, T. W. BICKETT,

Attorney-General.

CONSTRUING TAX LAW.

HON. T. W. BICKETT,
Attorney-General,
Raleigh, N. C.

RALEIGH, N. C., July 6, 1909.

MY DEAR SIR:—I write to get your opinion as to the following sections of our health laws:

1. When and in what manner should the tax on springs connected with hotels be collected (see section 3057)?

2. After the notification referred to in subsection (c) of section 3058 has been given has the Secretary authority to extend the time required for filing the surveys and plans? I find it will be almost, if not entirely, impossible for some of the companies to file their surveys and plans in the time given.

3. Does section 3050 empower inspectors, in making the surveys referred to in subsection (c) of section 3058, to enter upon private premises?

Enclosed find a copy of the laws with the parts referred to marked. An opinion from your office will be greatly appreciated by,

Yours very truly, W. S. RANKIN,
Secretary.

DR. W. S. RANKIN,
Raleigh, N. C.

RALEIGH, N. C., July 13, 1909.

DEAR SIR:—Your letter of July 6th came duly to hand and would have been answered sooner but for the fact that I have been out of town for some days and have just returned.

In reference to paying the tax, the law does not seem to refer to any dates from which it shall be paid. I think I would allow the balance of the month of March after the ratification of the act to go and begin my new quarter with the first of April, and have the tax for the remaining three-fourths of a year, proportional part of the annual tax, I mean, collected in the installments. Then, at the end of this year the tax can begin anew and can then be easily kept straight.

The notification given by the Secretary is directory, I think, and for good cause shown the time can be extended until it is possible for the surveys and plans to be filed.

I think there is no doubt but that section 3050 empowers inspectors to enter upon private business.

Very truly yours,

T. W. BICKETT,
Attorney-General.

By G. L. JONES, *Law Clerk.*

LICENSE TAX ON MINERAL WATERS.

HON. T. W. BICKETT,
Attorney-General,
Raleigh, N. C.

RALEIGH, N. C., July 12, 1909.

DEAR SIR:—I enclose a copy of a letter from the Glenn Springs Company, raising the question as to whether we can legally tax them for sales of water in this State, as provided for in section 3057 of The Revisal of 1905, as amended by the last General Assembly. This is a very important matter to the State Board of

Health as it would cut us out of a considerable part of our revenue, and we would thank you very much for your opinion on this subject.

Very truly yours, W. S. RANKIN,
Secretary.

DR. W. S. RANKIN,
Secretary of State Board of Health,
Raleigh, N. C.

RALEIGH, N. C., July 16, 1909.

DEAR SIR:—Referring to yours of the 12th, relative to the contention of the Glenn Springs Company of Spartanburg, S. C., I beg to advise:

It seems that the Glenn Springs Company is laboring under a misapprehension of the true nature of the tax required by 3057 of The Revisal of 1905 as amended by chapter 808 of the Public Laws of 1909. The tax required is not for purposes of revenue. The fee for the license issued is not for the privilege of doing business in the State, but is an essential inspection tax levied to defray the expenses incident to maintaining a department to protect the public health.

The section referred to as amended reads: "For the better protection of the public and to prevent the spread of communicable diseases there shall be established a State Laboratory of Hygiene, the same to be under the control and management of the State Board of Health, and it shall be the duty of the State Board of Health to have made in such laboratory monthly examinations of samples from all public water supplies of the State, of all waters sold in bottles or other packages, and of all spring waters that are maintained and treated as an adjunct to any hotel, park or resort for the accommodation and entertainment of the public."

To support the said laboratory there is levied a graduated tax, as follows: For springs or wells, the gross annual sales from which for the previous calendar year are less than two thousand and more than fifteen hundred dollars, fifty dollars; less than fifteen hundred and more than one thousand dollars, forty dollars; less than one thousand and more than five hundred dollars, thirty dollars; less than five hundred and more than two hundred and fifty dollars, twenty dollars; and less than two hundred and fifty dollars, fifteen dollars. That water companies beyond the limits of the State can be compelled to pay this inspection tax will not be denied. The right of the State to levy inspection taxes of this kind is in terms allowed by Article I, sec. 10, of the Constitution of the United States. The whole subject is exhaustively discussed by the Supreme Court of the United States in the case of *Patapsco Guano Co. v. Board of Agriculture*, 171 U. S., 345, and the right of the State to levy inspection taxes is clearly upheld.

If the State can levy a tax for inspecting the fertilizers that go into the ground, it would seem to follow that it can levy a tax for inspecting the water upon whose purity the very lives of the citizens depend.

In computing the tax to be paid by outside companies there can be considered only the amount of water shipped into this State, as it would be inequitable and unlawful to charge an inspection tax based upon water sold by a company which did not come into this State.

The eminently fair and humane policy of our State is seen in the proviso in regard to outside companies, which is as follows: "*Provided*, that satisfactory evidence of purity furnished by the State laboratories of other States agreeing to reciprocate in this matter with this State shall be accepted in lieu of the said license tax."

I am satisfied that when this view of the matter is presented to the outside water companies they will at once recognize, not only the legality of our statute, but its wisdom and justice as well.

Respectfully submitted, T. W. BICKETT,
Attorney-General.

AS TO PENALTIES.

HON. T. W. BICKETT,
Attorney-General,
Raleigh, N. C.

RALEIGH, N. C., August 4, 1909.

DEAR SIR:—We would appreciate your official opinion on the following points:
What authority has the State Board of Health for compelling springs to make affidavit as to the amount of water sold for the preceding year?

We are afraid that we will be handicapped in the collection of our water tax from these springs toward the support of the Laboratory of Hygiene by the absence of a provision in section 3057 of The Revisal of 1905, as amended by the Legislature of 1909, to compel these springs to report the amount of sales.

Very respectfully yours, W. S. RANKIN,
Secretary.

DR. W. S. RANKIN,
Raleigh, N. C.

RALEIGH, N. C., August 5, 1909.

DEAR SIR:—Your favor of the 4th has just been received and I have noted carefully the law referred to. There seems to be no provision for the punishment of those violating the terms of section 3056 of The Revisal as amended by the Acts of 1909. My idea about the way to go about it is this: After an affidavit has been filed one time you can then have a basis to go on, and can have the sheriff collect a double tax on that amount. If they do not give the affidavit, though, to have something to go by I would have the sheriff or tax collector collect a double maximum tax. This would shift the burden upon them. If they protested it then they could come forward with their evidence that the amount was too great, and in that way you could find what the tax should be. I think you will find the plan as set out the logical way to go about it.

Very truly yours, T. W. BICKETT,
By G. L. JONES, *Law Clerk.* *Attorney-General.*

QUARANTINE EXPENSE.

HON. T. W. BICKETT,
Attorney-General,
Raleigh, N. C.

RALEIGH, N. C., November 4, 1909.

DEAR SIR:—This office would like to have your opinion in the following case:
A sick mother is now quarantined with a child having scarlet fever. The father of the family is to return this afternoon and will take care of the sick patients. The house has but three rooms and the family will be without means of support while quarantined. Under section 4508 of The Revisal of 1905 is the food chargeable to the expense of the quarantine?

Very truly yours, MABEL MASSEY,
Clerk.

DR. W. S. RANKIN,

RALEIGH, N. C., November 13, 1909.

Raleigh, N. C.

DEAR SIR:—We are in receipt of a letter from your office upon the question of the expense of the quarantine when the family is not able to bear it. By section 4508 of The Revisal I think this should be charged to the quarantine expense unless the family is able to provide for itself during the time of the quarantine of the father, he supporting the family. The law says the expense of the quarantine, etc., shall be borne by the householder, if able; otherwise by the city, town, or county, etc.

See case of *Copple v. Comrs.*, 128 N. C., 137.

Very truly yours,

G. L. JONES,

Law Clerk.

WHO DETERMINES INDIGENCY.

HON. T. W. BICKETT,

RALEIGH, N. C., December 8, 1909.

*Attorney-General,**Raleigh, N. C.*

DEAR SIR:—I write to ask for an opinion on a part of section 4508 of our Public Health Laws. The part referred to reads: "The expense of the quarantine and of the disinfection shall be borne by the householder in whose family the case occurs, if able; otherwise by the city, town or county of which he is a resident." Now, I wish to know who is to judge of the householder's ability to pay for the disinfection—he, the county superintendent of health, or the county commissioners?

Awaiting your reply and thanking you in advance for this opinion, I am,

Yours respectfully,

W. S. RANKIN.

Secretary.

DR. W. S. RANKIN,

RALEIGH, N. C., December 10, 1909.

Raleigh, N. C.

DEAR SIR:—Your favor of the 8th instant asking for an opinion from this office upon that part of section 4508 of The Revisal which reads as follows: "The expenses of the quarantine and of the disinfecting shall be borne by the householder in whose family the case occurs, if able, otherwise by the city, town or county of which he is a resident," received. You wish to know who is the judge of the householder's ability to pay for the disinfecting. If it is a county charge, it is my opinion that the county commissioners are the judges, and if it is a town charge, I think the town commissioners would be judge.

Very truly yours,

T. W. BICKETT,

By G. L. JONES, *Law Clerk.*

Attorney-General.

THE LAW AS TO SANITARY COMMITTEE.

HON. T. W. BICKETT,

RALEIGH, N. C., December 10, 1909.

*Attorney-General,**Raleigh, N. C.*

DEAR SIR:—I write to ask your opinion in regard to the construction of sections 4441 and 4444 of The Revisal of 1905. Do these sections require the county sanitary committee to appoint one of the regular physicians of the county

to the position of county superintendent of health, or have they the right to appoint a layman to this position?

This opinion will greatly oblige.

Yours very truly, W. S. RANKIN,
Secretary.

DR. W. S. RANKIN,
Raleigh, N. C.

RALEIGH, N. C., December 15, 1909.

DEAR SIR:—Further replying to your favor of the 10th I wish to say that section 4444 of The Revisal provides as follows: "Two physicians shall be selected, one by the chairman of the board of county commissioners and one by the mayor of the county town, who, together with the board of county commissioners, shall constitute the county sanitary committee, of which committee the chairman of the board of county commissioners shall be, *ex officio*, chairman. Their term of office shall be coterminous with that of the commissioners with whom they serve, and when on duty they shall receive the same compensation as is received by county commissioners. The county sanitary committee shall have the immediate care and responsibility of the health interests of their county. They shall make such rules and regulations, pay such fees and salaries, and impose such penalties as in their judgment may be necessary to protect and advance the public health. They shall elect a registered physician, not a member of the sanitary committee, to serve two years, with the title of county superintendent of health, and shall fix his compensation."

This section was amended by the acts of 1909, chapter 793, sec. 6, as follows: "That section four thousand four hundred and forty-four of said Revisal be amended by adding thereto the following: *Provided*, that if the sanitary committee of any county shall fail to elect a county superintendent of health within two calendar months after the time set in section four thousand four hundred and forty-one of said Revisal for such election, the State Board of Health shall appoint a registered physician of good standing, resident in said county, in proportion to the salaries paid by other counties for the same service, having in view the amount of taxes collected by the said county."

You will see from the amendment that none of the original section was done away with, but that there was some more added to it.

On page 5 of your pamphlet form of the law on the subject, where section 4444, together with the amendment, is laid down, it seems that near the end of the paragraph just before the word "*Provided*," the sentence "they shall elect a registered physician not a member of the sanitary committee to serve two years, with title of county superintendent of health, and shall fix his compensation," has been omitted.

This, I think, belongs in there and should not have been left out.

Very truly yours, G. L. JONES,
Law Clerk.

WHAT CONSTITUTES COUNTY CHARGE.

HON. T. W. BICKETT,
Attorney-General,
Raleigh, N. C.

RALEIGH, N. C., December 13, 1909.

DEAR SIR:—Referring to your favor of December 10th, which I beg to acknowledge and thank you for, I wish to ask your opinion on what constitutes a county charge.

Very respectfully yours, W. S. RANKIN,
Secretary.

DR. W. S. RANKIN,
Raleigh, N. C.

RALEIGH, N. C., December 14, 1909.

DEAR SIR:—I have your favor of the 13th, and in reply thereto wish to say that the statute in this State imposes the general duty on the county commissioners to provide for the poor.

Speaking thus in general terms, it leaves it for the county commissioners to determine who are the poor within the meaning of the statute, and "in order to make a binding pecuniary obligation on the county there must be a contract to that effect express in its terms."

I trust that the above will give you the information desired.

Very truly yours, G. L. JONES,
Law Clerk.

QUARANTINE JURISDICTION.

HON. T. W. BICKETT,
Attorney-General,
Raleigh, N. C.

RALEIGH, N. C., December 28, 1909.

DEAR SIR:—Section 4508 authorizes that all inland quarantine be under the control of the county superintendent of health, who is the appointee and agent of the board of county commissioners. The county superintendent of health is in this way directly responsible for the protection of the public health in his county. But, inasmuch as his position is purely political, and can be terminated at any time by the board of county commissioners, that board is really the responsible organ for the protection of the public health of its county. As you can readily see, this is a tremendous responsibility. Diseases that are easily controlled and that ought to be limited to a few victims, go uncontrolled and sap the health and lives of many. However, as long as only those who are responsible for the election of the irresponsible commissioners, that is, the people within the jurisdiction of this board of county commissioners, suffer, the condition is not within the jurisdiction of the State officials. But, inasmuch as an epidemic disease, such as smallpox, tends to spread from the county that harbors it and involves other counties and other States, and thereby puts these other counties and States to great trouble and expense, it does concern the State. Such a town or county in this way may become a disease breeder and distributor, a public nuisance and an expensive neighbor to surrounding counties. It is, therefore, very evident that a board of county commissioners who do not see to the enforcement of quarantine laws within their jurisdiction, become a menace to the State, and that under such conditions the State should have some power of protection against their inefficiency.

In view of these facts I write to ask your opinion in the form of answers to the following questions:

1. What power has the State Board of Health to require the county commissioners, entrusted with the authority to quarantine, to enforce quarantine laws?

2. What redress has a man who has lost his health, or the health or life of some member of his family from a contagious disease, where there is proof that such disease was contracted from a preceding disease of the same nature which should have been, but was not, quarantined?

3. Is the county, through its agents, the board of county commissioners and county superintendent of health, liable for damages in such a case?

Thanking you for this opinion, I am,

Yours very truly, W. S. RANKIN,
Secretary.

DR. W. S. RANKIN, RALEIGH, N. C., January 6, 1910.
Superintendent State Board of Health,
Raleigh, N. C.

DEAR SIR:—Yours of the 28th ult. received. You wish to know what power the State Board of Health has to require the county authorities to quarantine, and also what redress an individual would have who has lost his health or life from a contagious disease which should have been, but was not, quarantined.

Answering the first question, it seems that the State Board of Health has very little power over the county authorities to require them to quarantine and enforce the health laws. Almost complete charge of the matter seems to have been placed in the authorities of the respective counties. By section 4444 of The Revisal as amended, the law gives to the State Board authority to appoint a county superintendent of health, if the county board does not do it, and to fix his salary, but outside of that section there seems to be no law where they can require them to enforce the health law. By section 4438 of The Revisal the State Board is given sanitary jurisdiction in certain instances, but that is a different proposition. They are given jurisdiction to act themselves, but not to compel the county board of health to do so.

Of course, there are certain things the superintendent of health must do, such as to make reports to the State Board in certain cases, etc., and there is a penalty attached if this is not done; but outside of that I do not see where the law provides that you can force the county authorities to proceed in the matter.

It seems that the State Board of Health, under the present law, is more of an advising board than anything else. Section 4437 of The Revisal, in laying down their duties, says they shall investigate diseases, gather such information as they can "for distribution among the people with the special purpose of informing them about preventable diseases." They shall investigate the health conditions of all State institutions, "and make a report as to their sanitary conditions, with suggestions and recommendations to their respective boards of directors and trustees."

Section 4439 provides that they issue bulletins and advise freely to check the invasion of diseases in any part of the State.

From the foregoing it seems that your board, under the present law, is limited almost exclusively to advising instead of directing the county health authorities. Section 4444 says: "The county sanitary committee shall have immediate care and responsibility of the health interest of their county."

As to the second proposition. One can not get a judgment against a county when the statute does not so provide, as in this case. The courts have held a number of times to that effect. It is different, though, with respect to towns. They may be sued and a judgment procured against them. In case the boards of health should fail or neglect to perform their duties in appointing health officers, and by such abuse of their duty should cause a person to lose his life or health, when it would have been otherwise if the members of the board had done as they were required by law to do, then I think that would constitute a good cause of action for damages. If the authorities are county officers, the suit would have to

be brought against the members individually, but if town officers, the action might be brought against the town or city. But if the boards have used their discretion in appointing a superintendent of health and have not grossly abused their discretion, then I do not think a cause of action would lie against them.

By G. L. JONES, *Law Clerk*.

Very truly yours, T. W. BICKETT,
Attorney-General.

QUARANTINE SIGNS.

HON. T. W. BICKETT,
Attorney-General,
Raleigh, N. C.

RALEIGH, N. C., January 7, 1910.

DEAR SIR:—I herewith acknowledge your favor of January 6th, for which I thank you. The question of what constitutes a legal quarantine has been propounded to this office, and I would thank you to answer this question for me.

The point I am particularly interested in is whether a placard is necessary for quarantine.

Very respectfully, W. S. RANKIN,
Secretary.

DR. W. S. RANKIN,
Superintendent State Board of Health,
Raleigh, N. C.

RALEIGH, N. C., January 11, 1910.

DEAR SIR:—I am in receipt of your favor of the 7th, as to whether a placard is necessary for a quarantine.

Section 4508 of The Revisal puts quarantine under the control of the county superintendent. It says: "Inland quarantine shall be under the control of the county superintendent of health, who shall see that diseases especially dangerous to the public health, etc., * * * are properly quarantined and isolated," etc. As you will see, the only thing the statute provides is that the person must be properly quarantined and isolated. I do not think any special or particular way is necessary to do this, just so the quarantine is effective. Of course, this would require notice. As to how the notice is given, I think, is immaterial. I think it can be given by placing a placard in a prominent place, by having a person stationed there as a guard, or by any means of the kind, any of which, I think, which would give the proper notice would be a proper quarantine. It seems, of course, that a placard is the practical method.

Trusting that this is the information desired, I am,

Very truly yours, T. W. BICKETT,
By G. L. JONES, *Law Clerk.* *Attorney-General.*

SEWAGE PURIFICATION.

HON. T. W. BICKETT,
Attorney-General,
Raleigh, N. C.

RALEIGH, N. C., April 8, 1910.

MY DEAR SIR:—I wish to call your attention to subsection B of section No. 58 and section No. 3858 of the enclosed copy of the Public Health Laws, and to ask you if there is anything in this section that requires the State Board of Health to examine and pass upon sewage purification plants when the sewage is

emptied into a stream from which at the time no public drinking water supply is taken.

Thanking you in advance for this kindness, I am,

Very truly yours,

W. S. RANKIN,
Secretary.

DR. W. S. RANKIN,
Secretary State Board of Health,
Raleigh, N. C.

RALEIGH, N. C., May 27, 1910.

DEAR SIR:—I am in receipt of yours of today enclosing copy of your letter of April 8th, wishing to know if subsection B of section 3858 of The Revisal requires the State Board of Health to examine and pass upon sewerage purification plants when the sewerage is emptied into a stream from which, at the time, no public water supply is taken.

From the reading of the statute I am of the opinion that it is the duty of your board to consult with and advise the boards of State institutions as to the most appropriate source of water supply and the best practical methods of assuring its purity when the sewerage empties into a stream which there is a prospect of ever becoming a water supply, whether the stream is furnishing a water supply now or not.

That, I think, is clearly the meaning of the law.

Very truly yours,

T. W. BICKETT,
Attorney-General.

By G. L. JONES, *Law Clerk.*

PUBLIC INSPECTIONS OF OFFICIAL REPORTS.

HON. T. W. BICKETT,
Attorney-General,
Raleigh, N. C.

RALEIGH, N. C., July 8, 1910.

MY DEAR MR. BICKETT:—I have been requested by Dr. John Roy Williams to furnish him with a copy of the report of an official inspection, authorized by this office, of the State Sanatorium for the Treatment of Tuberculosis, at Montrose.

I write to ask your official opinion in regard to the right of a citizen to request or demand of a State official an official document or report, such as the one in question.

The only law that I have touching the point in question is the last sentence in section 4447 of The Revisal of 1905 as amended by the Legislature of 1909, which says: "The secretary of the board shall make biennially to the General Assembly, through the Governor, a report of their work." Under this law I presume that it would be my duty to publish this report next January, and such is now my intention: but whether to make a copy and turn it over to Dr. Williams or not, I am not sure, and wait for your kind and valued advice.

Very respectfully yours,

W. S. RANKIN,
Secretary.

DR. W. S. RANKIN,
Raleigh, N. C.

RALEIGH, N. C., July 11, 1910.

DEAR SIR:—I am just in receipt of your favor of the 8th and note carefully the question contained therein. It seems that a certain party wishes you to furnish him with a copy of the report of an official inspection of the State Sanatorium of

Tuberculosis at Montrose, the making of said inspection being authorized by your office.

To start with, I do not think you would be required to furnish a copy, as I know of no law to that effect. The question is, then, if you prefer him not doing so, can he require that you allow him the privilege of inspecting the records and making such copies as he cares for. If the party is an officer or is connected in some like way with the institution, it is very likely that he would be entitled to inspect the records and make copies from them. If he is not connected in any way with the institution, but is only a private citizen and has no personal interest in knowing what the report shows, I do not think you would necessarily have to grant the request he makes. It may be that there is something in the report which, in your opinion, it would be against public policy and against the best interests of the State to be published at this time. The purpose of the law, as I understand it, in requiring that these reports be made to your board is that you may correct existing evils, and not that you may show to the world the evils that exist. I am of the opinion that the question as to whether or not you make known these reports is a matter resting largely in your sound discretion, and if you think it best that they be not made public at this time you have the right to refuse to submit them to the general public for investigation.

The following language, taken from the case of *Newton v. Fisher*, 98 N. C., at page 24, seems to be very appropriate and apply with peculiar emphasis here:

"If he has the right to make abstracts of all the records of 1886, he has the right to make them for all the years; if he has the right to copy or make abstracts of parts of the records, it may be the material parts, he has the right to copy the whole. If it is the right of one it is the right of all. Once concede the right, and where will it end? The records of this Court, of all the courts, of the executive department of every public office in the State would be subject to the same right in every individual in the State, and, aside from the inconvenience and perhaps intolerable annoyance and loss of just emoluments to public officers, the danger and risk which they might incur in possible injury to the records affecting public and private rights, make it manifest that such right can not exist. It is not the right of all, it is not the right of one."

Other jurisdictions seem to agree with me in the view that I take.

"While the books and documents of a public office are the property of the public, and are preserved for public uses and purposes, it is not the unqualified right of every citizen to demand access to and inspection of them; but, to entitle one to an inspection of such books and documents, other than judicial records, he must show that he has an interest therein, and desires an inspection thereof for a legitimate purpose." *Brewer v. Watson*, 71 Ala., 299.

See, also, *Greenleaf on Evidence*, Vol. I, sec. 476, 16th Ed.

34 Cyc., page 595.

61 Ala., 310.

Very truly yours,

T. W. BICKETT,

By G. L. JONES, *Law Clerk*.

Attorney-General.

POLLUTION OF WATERSHED.

HON. T. W. BICKETT,
Attorney-General.

Raleigh, N. C.

RALEIGH, N. C., July 21, 1910.

MY DEAR SIR:—According to the laws of North Carolina—sections 3045 and 3047—there exists an *inspection watershed*; that is, an area of the natural

watershed defined for quarterly inspections. We, therefore, have two watersheds—the inspection watershed, that is, the *portion* inspected quarterly, and the natural watershed, that is, the *whole* surface of the ground from which water flows into the stream furnishing a public water supply. We have presumed that the fifteen-mile limit applied *only* for the purpose of inspection.

Recently we have sought to bring action, under section 3049, against a party for not removing, as ordered by this board, a pollution existing on land which is within the natural watershed but without the inspection watershed. It was contended by the attorney representing this party that section 3049 applied only to the inspection watershed, or the fifteen-mile limit above the intake, and that we, therefore, had no jurisdiction.

If the opinion of this attorney is correct, then, a party might pile within ten feet of a watershed tons of putrescent privy contents, or a half-dozen dead animals, and those using the water would be powerless to prevent this pollution.

We, therefore, ask your opinion of the meaning of section 3049; does it apply to the fifteen-mile inspection watershed, as defined by sections 3045 and 3047, or does it apply to the entire watershed?

Thanking you in advance for this valuable service, I am,

Yours very truly, W. S. RANKIN.

Secretary.

DR. W. S. RANKIN,

*Secretary of State Board of Health,
Raleigh, N. C.*

RALEIGH, N. C., July 25, 1910.

DEAR SIR:—I have the honor to acknowledge receipt of your valued favor of July the 21st, and in reply thereto beg to advise:

It appears that recently there was discovered upon the watershed of one of our towns certain polluted matter which constitutes a menace to the health of the people who derive their drinking water from this watershed.

It further appears that the local board of health and the State Board of Health through its secretary notified the owner of the land to remove such pollution, and he declined to do so, maintaining that the polluted matter was more than fifteen miles from the intake of the waterworks, and that the authorities had no right to direct him to remove the objectionable matter.

In my opinion such a contention can not be sustained. The fifteen-mile limit only applies to compulsory inspection as outlined in sections 3045 and 3046 of The Revisal. Section 3047 imposes a penalty upon the officers of the water company for failing to make such inspection, and section 3861 makes the officers of a municipality also indictable, but section 3049 applies to the entire watershed of any lake, pond or stream from which a public drinking supply is obtained, and it is indictable for any one to refuse to remove objectionable matter from the watershed, regardless of the distance from the intake, when such matter would really tend to pollute the public drinking supply.

Our Supreme Court, in the case of *Durham v. The Cotton Mills*, 141 N. C., at pages 632 to 634, inclusive, expressly holds that the fifteen-mile limit applies only to the watershed established for the purpose of inspection, and does not apply to the sections of the act relative to the pollution of water supplies generally.

I think that the party would be indictable under sections 3857, 3858, and 3859 of The Revisal of 1905, and to none of these sections does the fifteen-mile limit apply.

The purpose of the statute is to protect all public water supplies from pollution and to compel regular inspection of a watershed for fifteen miles from the intake.

Yours very truly,

T. W. BICKETT,
Attorney-General.

ADMISSION TO TUBERCULOSIS SANATORIUM.

HON. T. W. BICKETT,
Attorney-General,
Raleigh, N. C.

RALEIGH, N. C., September 22, 1910.

DEAR MR. BICKETT:—I have a letter from a young lady, who is now in an incipient stage of tuberculosis, and she states the following facts: 1. Born in the State of North Carolina and lived there until a little over a year ago. 2. Have been out of the State and living in Maryland since leaving North Carolina, during which time have contracted tuberculosis. 3. The State of Maryland refuses to admit her to the State Sanatorium for Tuberculosis because she is not a citizen of that State. 4. Not being able to pay for treatment, she wishes to enter the North Carolina Sanatorium for Treatment of Tuberculosis.

Now, I write to ask if this girl is a citizen of North Carolina and entitled to the rights and privileges of a citizen. It would seem that if she is not a citizen of North Carolina, and if the State of Maryland has ruled correctly, that she is a woman without a country.

I write for your opinion in regard to her citizenship, because the authorities of the State Sanatorium have raised an objection to taking her on the ground that she is not a citizen of the State.

A prompt opinion will be very much appreciated by this office and will be very helpful to her, on account of the advancing condition of her disease.

Very respectfully yours,
W. S. RANKIN,
Secretary.

DR. W. S. RANKIN,
Secretary State Board of Health,
Raleigh, N. C.

RALEIGH, N. C., September 23, 1910.

DEAR SIR:—I have yours of the 22d, enclosing copy of letter from * * * and note contents of same.

You wish to know if * * * is entitled to admission in the State Sanatorium for the Treatment of Tuberculosis. The statute, chapter 964, of the Acts of 1907, incorporating the Sanatorium, is silent as to who shall be entitled to admission. All regulations are made by the board of directors and the entire management of the institution is in their hands.

Section 11 of the act.

Under the facts set out in * * * 's letter, I am of the opinion that the party is a citizen of North Carolina, it appearing from the letter that the party has never given up citizenship in this State, and that the board of directors would be justified in admitting the party into the Sanatorium so far as citizenship is concerned.

Very truly yours,
T. W. BICKETT,
Attorney-General.

By G. L. JONES, *Law Clerk.*

CONDEMNATION FOR SEWERAGE.

HON. T. W. BICKETT,
Attorney-General,
Raleigh, N. C.

RALEIGH, N. C., September 28, 1910.

MY DEAR SIR:—I enclose copy of a letter from Hon. Francis Womack, Mayor of Reidsville, who raises the question as to the condemnation of lands for the purpose of installing a municipal sewer system.

Does section 3060 of chapter 76 of The Revisal of 1905 include under the term "water companies" the sewerage of a town or city?

If this section does not include sewerage systems under water companies, giving the municipalities thereby the right to condemn for the purpose of installing such a system, is there any other section of law by which the parties concerned may proceed?

Thanking you for this opinion, I am,

Very respectfully yours, W. S. RANKIN,
Secretary.

DR. W. S. RANKIN,
Secretary State Board of Health,
Raleigh, N. C.

RALEIGH, N. C., October 12, 1910.

DEAR SIR:—Further replying to your favor of the 28th, in which you enclosed letter from Hon. Francis Womack, Mayor of Reidsville, upon the question of condemnation for the purposes of installing a municipal sewerage system, I wish to say that, while the statute is not clear on the point about which you ask, yet I am of the opinion that the Court would hold that the city had the right to condemn the property if it is necessary in order to carry out the water and sewerage system of the town.

I return herewith Mr. Womack's letter.

Very truly yours, T. W. BICKETT,
By G. L. JONES, *Law Clerk.* *Attorney-General.*

CONTROL OF QUARANTINE.

HON. T. W. BICKETT,
Attorney-General,
Raleigh, N. C.

RALEIGH, N. C., November 11, 1910.

DEAR MR. BICKETT:—I respectfully request your opinion on the authority of the county superintendent of health as laid down in section 4508 of the Public Health Laws, a marked copy of which I am enclosing, to raise quarantine on cases of smallpox. Your opinion on this point will be deeply appreciated by,

Yours truly, W. S. RANKIN,
Secretary.

DR. W. S. RANKIN,
Secretary State Board of Health,
Raleigh, N. C.

RALEIGH, N. C., November 14, 1910.

DEAR SIR:—I am just in receipt of your favor of the 11th. You wish my opinion upon the authority of the county superintendent of health as prescribed by

section 4508 of The Revisal. As I understand it, you wish to know if the county superintendent of health has authority to dispose of quarantine entirely if he deems that a more expedient way of stopping the spread of disease. I am inclined to think the statute would have to be amended for it to be lawful for him to take a step of that kind. The law says: "Inland quarantine shall be under the control of the county superintendent of health, who shall see that the diseases especially dangerous to the public health are properly quarantined and isolated within twenty-four hours," etc.

Very truly yours,

T. W. BICKETT,

By G. L. JONES, *Law Clerk*.

Attorney-General.

Inspection of State Institutions

INSPECTION OF THE STATE SANATORIUM FOR THE TREATMENT OF TUBERCULOSIS.

SPECIAL REPORT TO W. S. RANKIN, SECRETARY NORTH CAROLINA STATE BOARD
OF HEALTH.

MONTROSE, N. C., July 20, 1909.

In compliance with your letter of the 15th inst., stating that a grave charge had been made against our Sanatorium at Montrose, and requesting me to go at once and investigate the sanitary conditions there and report to you as the executive officer of the Board, I have the honor to respectfully submit the following:

First. That there is not a nurse or matron at the institution, and that the patients are without attendance of any kind except a negro man cook and a negro woman as his helper.

Second. That the windows and doors are not provided with screens. The kitchen and dining room swarms with flies. I observed the cook preparing dinner, and the raw and cooked food completely covered with flies. The negro woman sleeps in the dining room and the bedding was left in the room during the day. The negro man uses the kitchen for his sleeping quarters. The food seems to be good, but it is prepared under unsanitary conditions. Slops are left on the porches near the water barrels.

Third. That there is no protection from rain on the porches where patients sleep, and the beds are changed to different parts of the building to protect patients from rain. The porch floors had not been swept nor cleaned for weeks, and the cracks are filled with dust and dirt.

Fourth. That the beds are unclean and it was reported to me by patients that there had been no change of bed linen on some beds for two weeks—on others not in thirty days, and I noted that soiled bedding was thrown in a heap on one corner of the porch near a patient's bed; dirty water standing in the wash basins and bowls, and I observed a foul stool left in a commode by the side of a patient's bed which had been allowed to remain for over twelve hours.

Fifth. That the ventilation of the rooms is bad. The air in the rooms was unpleasant and windows were closed. The untidy condition shows a lack of cleanliness throughout.

Sixth. That there are no bath tubs or any kind of tub in the institution in which a patient can take a bath.

Seventh. That there are two privies and there is no evidence that they have been cleaned for some time. No disinfectants can be found; no covering of the stools, and the odors were offensive.

Eighth. That while it must be admitted that the institution is young and very crude in its appearance thus far and that it has not been supplied with necessary appliances and conveniences, yet it would seem that with so few pa-

tients to care for that the small space there provided could be kept in a most sanitary and tidy condition. The dangers from reinfection seem to be great.

Very respectfully,

(Signed) C. A. JULIAN, M.D.,

Asst. Sec. State Board of Health for Tuberculosis.

To Dr. W. S. RANKIN,

Secretary State Board of Health,

Raleigh, North Carolina.

TUBERCULOSIS SANATORIUM, MONTROSE.

The inspector arrived at Montrose about 10:30, April the 19th, without previous notification, and found the steward at the train, together with three patients. I was met on the grounds by Dr. Brooks, who suggested that as they were cleaning the pavilions, we first inspect the grounds. Dr. Brooks remarked that it would be probably dangerous for me to be in the pavilions while they were being swept. The patients were in the pavilions at that time. I later asked Dr. Brooks to explain this remark, and he said that they swept the floors in the ordinary way with the broom, and while there was little danger of infection resulting from this cleaning process, still it was more dangerous to be in the pavilion than outside.

The grounds were found in splendid condition. There were a few young long-leaf pines blown over, which might have been replaced, that is, propped up, some time before, as they had been down for about a month, but lack of servants would make this apparent negligence excusable.

In inspecting the water supply, Dr. Brooks called attention to the fact that the pipe carrying the hot water from the heaters to the pavilions, being without asbestos covering, allowed the water to become cold before reaching the baths, so that the patients had been, and were at that time, without warm bathing facilities. The casino was empty, that is, without any furnishings. The nurses' quarters were clean and orderly.

Returning to the pavilions, we found most of the patients out in the yard and only three or four in bed on account of temperatures. These pavilions were screened, without dust, and, from a sanitary point, clean.

A number of trunks were found in the sitting rooms which would have given a more orderly appearance to the pavilions had they been in a closet or stored away in some other place.

The floors of the pavilions have a dirty appearance. This unsightliness was explained by Dr. Brooks to be due to their having been painted and then oiled. The oil had seemingly collected into droplets and dried, giving the floors the appearance of having been spat upon by tobacco spit.

We then visited the kitchen. First entering the dining room, we found the tables cleared and the table cloths fairly clean. We were kept waiting between five and ten minutes before we entered the kitchen. The explanation for this was that the cook had not yet washed up the breakfast dishes, and the kitchen was not in a condition to receive visitors. After waiting five or ten minutes we entered the kitchen and found it properly equipped, and it was as orderly and clean as time and circumstances would permit.

The patients were then questioned by your inspector in regard to their treatment. Dr. Brooks was not present while the patients were interviewed. They all seemed happy and contented and none of them made any complaint. They said that they were as well fed and as well cared for in every way as they could expect for what they were paying.

The patients were without spit cups, but were using, instead, envelopes with a little cotton pushed into them. Dr. Brooks explained the absence of the spit cups on the ground that an order had miscarried, or that the manufacturers had been negligent in complying with the order for these cups.

Another matter which your inspector wishes to call your attention to is the construction of the chimneys in the casino and the new pavilion; all of these chimneys smoke badly, so that it is almost impossible to use them. This, of course, is a source of great annoyance, and makes it almost impracticable to use the open fireplace system of heating.

On returning to Aberdeen, your inspector noticed two of the servants and one patient, a boy of about twelve years, on the train. This boy frequently coughed and did not take any precautions to prevent infection, such as holding a handkerchief in front of his mouth and nose; this indicated rather loose discipline at the sanatorium.

Criticisms: Absence of spit cups; the boy, who had been in the institution two months, coughing on the train without taking proper sanitary precautions; no hot water for warm baths; method of sweeping pavilions.

Respectfully submitted,

W. S. RANKIN,
State Health Officer.

HOSPITAL AT MORGANTON.

THE BOARD OF DIRECTORS,

State Hospital, Morganton, N. C.

GENTLEMEN:—Representing the State Board of Health, the undersigned, on the 14th and 15th of December, 1910, without notice, made an inspection of the Hospital and beg leave to report:

We found the institution in its usual excellent sanitary condition.

We cordially commend the substitution of the modern plumbing now in process of installation for the out-of-date fixtures of twenty-five years ago.

We were gratified to note the completion of the new colony, the location and plan of which met with our hearty approval; the nurses' home and the pavilion for tuberculous male patients, since our last visit. The fact that only one patient occupied this pavilion and that there were only two inmates of the corresponding pavilion on the female side, when we consider your large population, is encouraging. The decrease in the tuberculosis death rate from 25 per cent to 15 per cent in round figures of the total deaths in the past six years is still more so.

We feel that you and the State are entitled to congratulations on the continued most excellent management of this great institution.

GEO. G. THOMAS, M.D.,
RICHARD H. LEWIS, M.D.,
Committee.

CENTRAL HOSPITAL AT RALEIGH.

BOARD OF DIRECTORS,

Central Hospital, Raleigh, N. C.

GENTLEMEN:—I have the honor to report inspection, as authorized by section 4437, Revisal of 1905, of the Central Hospital for the Insane, located at Raleigh, N. C.

This inspection was made in company with Dr. Jno. A. Ferrell, Assistant Secretary of the State Board of Health. We were courteously received and shown through the institution by Doctors Picot and Stancil.

The inspection was very thorough, fully two hours being devoted to it, and it embraced the laundry, dining rooms, grounds, and barns. General cleanliness and order were evident throughout the institution. Toilet rooms were inspected and found clean and plumbing seemed to be in good condition. Ventilation and lighting of the institution is well provided. A good system of steam heating keeps the Hospital comfortably warm under all conditions of temperature.

The patients were clean and healthy looking for people with diseased minds. The water supply is obtained from the Raleigh waterworks and milk is obtained from a fine herd of tuberculine-tested cattle.

The only change which we would suggest making in the present sanitary management of the institution is the separation of the tuberculous patients from the nontuberculous. We were informed that there were about six of these patients. This suggestion, however, is very probably unnecessary, as the Hospital authorities are endeavoring to arrange for this separation at an early date.

Respectfully submitted, W. S. RANKIN,

Secretary.

NORMAL AND INDUSTRIAL COLLEGE.

THE BOARD OF DIRECTORS,

*The North Carolina State Normal and Industrial College,
Greensboro, N. C.*

GENTLEMEN:—I have the honor to submit to your body my report of a sanitary inspection of the College made on December 5, 1910. As you are aware, this inspection was made in obedience to section 4437 of The Revisal of 1905.

Your inspector was received cordially and shown through the institution by Dean Smith and Dr. Gove, the College physician. This inspection was very thorough, two hours being spent in making it.

The grounds are well drained and nicely kept. The water supply of the institution is furnished by the Greensboro public supply. The milk is obtained from their own herd of tuberculine-tested cattle. The buildings are steam-heated, well lighted and ventilated. The plumbing was in excellent shape.

One who is familiar with life in male colleges will be especially impressed with the neatness and orderliness of the laboratories, the general cleanliness of floors and windows and other external expressions of woman's greatest concern for those things that go to make a home.

Dr. Gove, the College physician, gives her entire time to looking after the health of the students, and with the new infirmary just completed, with a capacity of 75 beds and thoroughly equipped, the health of the students of this College is thoroughly provided for.

On the whole, the sanitary condition of this institution is excellent.

Respectfully submitted, W. S. RANKIN,

Secretary.

THE COLLEGE OF AGRICULTURE AND MECHANIC ARTS.

BOARD OF DIRECTORS,

Agricultural and Mechanical College, Raleigh, N. C.

GENTLEMEN:—I have the honor to report, under the provisions of section 4437 of The Revisal of 1905, the results of an inspection of the North Carolina Agricultural and Mechanical College, made on the 30th day of December, 1910.

I was accompanied on this inspection by Dr. L. B. McBrayer, of Asheville. We were received courteously and shown through the institution by President Hill.

The grounds are well drained and well kept. The buildings are heated with steam and their construction permits of proper ventilation. The water supplies are obtained from the Wake Water Company, and the milk used in the institution is supplied by a fine herd of tuberculine-tested cattle.

The dormitories, kitchen and dining room were inspected and found clean and sanitary.

The sanitary requirements of this institution are well supplied, with one important exception, namely, the hospital is totally inadequate for the needs of the institution. An epidemic of any size would make it necessary to treat the boys in their rooms without any hospital care whatever; the total number of beds not exceeding one dozen. The hospital facilities for such an institution as this College, with from six to seven hundred students, should afford at least forty beds and proper facilities for the separation of contagious from noncontagious diseases. I urgently recommend that your Board petition the Legislature to make these provisions, not only for the care of the sick students, but for the prevention of disease among the student body.

Respectfully submitted, W. S. RANKIN,
Secretary.

STATE PRISON, RALEIGH.

BOARD OF DIRECTORS,

State Penitentiary, Raleigh, N. C.

GENTLEMEN:—Inspector arrived at the Penitentiary about ten o'clock, April 5th, and was met by Captain Laughinghouse and Warden Sale.

A thorough inspection of the entire institution was made, and it was found to be sanitary and orderly throughout, with the exception of the arrangements for the care of the tuberculous.

Vermi was looked for and was not found.

Now, in regard to the handling of tubercular prisoners: I respectfully submit that they are not properly cared for. The careless indifference of this class of our population makes it necessary that they be strictly watched and constantly reminded of their responsibility (a correlated danger very few of them appreciate) to properly care for their sputa. The incipient cases, that is, the curable cases, and the noncurable cases are not separated. I think a record of the large number of cases that have developed, and many of them terminating in this institution, within the last ten years, has shown that very few of them recover as compared with the number that do recover outside the Penitentiary. There is no isolation of the disease on the women's side of the Penitentiary, and I fear the isolation practiced on the men's side amounts to little. In my opinion, it is practically impossible to properly care for and treat tubercular patients in the State Penitentiary. This problem must be met and handled. It is not just to expose prisoners to the disease and thus change the sentence of the court from a sentence of a few years' labor to a death sentence. This has been done, and until some changes are made, will continue. Not only does this happen, but after the disease has gotten considerable headway in a number of its victims, it becomes the only just and wise course for the Governor to pursue—to pardon the tuberculous prisoners. The prisoners go back home and distribute the disease contracted in the State Penitentiary to members of their own homes and neighbor-

hoods. In this way the Penitentiary becomes a distributing station of this agent of death for the entire State.

Recommendation: As Secretary of the State Board of Health, I respectfully submit that it might be well that the Board of Directors of this institution and the Board of Directors of the State Sanatorium consider the advisability of building a prisoners' pavilion on the thirteen hundred (1,300) acre tract of land now owned by the Sanatorium. Here, these prisoners would be properly cared for by the Sanatorium for the Treatment of Tuberculosis and the Penitentiary could recompense the Sanatorium for the expenses incurred in taking care of the State's prisoners. It is possible that many of these prisoners could be profitably used in gardening and in other light duties necessary for the operation of the Sanatorium. Something must be done for the sake of justice and humanity, and the sooner it is done, the better.

Will these causes be subserved?

Respectfully submitted,

W. S. RANKIN,
Secretary.

PRISON FARM AT TILLERY.

BOARD OF DIRECTORS,

State Farm, Tillery, N. C.

GENTLEMEN:—I herewith submit my inspection of the sanitary condition of the camps of the State Farm, made in accordance with section 4437 of The Revisal of 1905, on the 31st day of December, 1910.

I was courteously received at the camps and shown through them by the stewards. I found the kitchen, dining room, and sleeping apartments clean, orderly and sanitary. The food that was being cooked was substantial and, I believe, well prepared.

I would recommend that your Board carefully consider the advisability of using a central heating plant and possibly a lighting plant for this institution. The practice of heating the sleeping quarters of the convicts with one or two stoves is of questionable hygienic wisdom, and the use of so many kerosene lamps in their sleeping quarters is, also, of questionable safety. It seems to me that if the State's policy to use the convicts on the Farm, which is certainly the healthiest place for them, is determined, then a central lighting and heating plant, furnishing at the same time power for various machines, is well worth considering.

I further recommend that a more abundant and convenient water supply be installed by erecting a central reservoir and pumping station. With such an arrangement time and labor would be saved and personal cleanliness insured. At the same time, the out-of-date arrangement for sewage disposal, the best under present circumstances, would be replaced with a modern and sanitary sewerage system.

The health of the convicts, as shown by the physician's report, has been ex-

Respectfully submitted,

W. S. RANKIN,
Secretary.

JACKSON TRAINING SCHOOL.

THE BOARD OF DIRECTORS,

Jackson Training School, Concord, N. C.

GENTLEMEN:—I have the honor to report the results of an inspection authorized by section 4437, Revisal of 1905, of the Jackson Training School. This in-

stitution, under the management of Supt. Walter Thompson, was inspected on December 5, 1910.

The Jackson Training School is situated on a high hill three miles south of Concord, which affords good drainage in all directions and commands an extensive view of a beautiful surrounding country. The buildings are well located with reference to each other, and your inspector was especially impressed with the distance of the barn from the buildings. There are no surface privies, the institution being equipped with a modern sewerage system, the examination of which found it in excellent sanitary condition. The grounds, too new to have a lawn, are clean and the arrangement of flower plots, walks, etc., speak well of the carefulness of detail and order of the management.

The examination of the buildings found them commodious and well ventilated, and while the system of heating is the old-fashion stove and fireplace, the temperature of the rooms was comfortable and there need to be no discomfort from cold. Your inspector was most favorably impressed with the manifest order throughout the institution. The furniture, beds, bedclothes, wearing apparel, dining room furniture, etc., being so arranged as to indicate keen regard for detail and order. General cleanliness was in keeping with orderly arrangement.

The boys are separated into two groups, an older and younger set, and these groups occupy two different buildings. I found the boys clean, healthy-looking and cheerful, sitting around the tables in the reception room, reading and playing games. I was told by Superintendent Thompson that with an average attendance of 45 boys during the last twenty months, he had only spent about \$45 for medical attention.

To summarize this institution, it is in most excellent sanitary condition.

Respectfully submitted, W. S. RANKIN,

Secretary.

SCHOOL FOR THE BLIND AND DEAF.

BOARD OF DIRECTORS,

School for the Blind and Deaf, Raleigh, N. C.

GENTLEMEN:—Under section 4437 of The Revisal of 1905, I beg to submit a report of my inspection of your institutions, white and colored, at Raleigh, made on the 28th day of December, 1910.

The management of these institutions received me cordially and went over all parts of the institutions with me.

I found the grounds around the buildings clean, well drained and in good order. The grounds of both institutions, especially the white school, are too small to permit the proper amount of gymnastics necessary in the development of children under favorable conditions, and, therefore, still more necessary in the proper development of these children who are already defected.

Satisfactory fire escapes are provided in both schools, and I am informed by the management of these institutions that the children are frequently given fire drills. In the erection of buildings in the future for this class of our State's dependents, I think it very important that fire-proof buildings be ordered.

In the thorough inspection of both institutions I found the arrangement of furniture and other equipment orderly; cleanliness in the white institution, considering the decrease in servants incident to the holidays, and considering that the blind, of all people, are hard to give a proper conception of cleanliness, was good. The colored institution was cleaner than the white institution. I was

unfavorably impressed with the spit marks on the floors of the white school. I would recommend that the children of this institution be more strictly disciplined for this and that they be required to use spittoons or other spitting convenience when obliged to spit.

In concluding, I submit that, considering the season and the class of inmates, the condition of these two institutions was satisfactory.

Respectfully submitted, W. S. RANKIN,
Secretary.

STATE HOSPITAL FOR THE COLORED INSANE, GOLDSBORO.

BOARD OF DIRECTORS,

State Colored Insane Asylum, Goldsboro, N. C.

GENTLEMEN:—I have the honor to submit my report of an inspection of the State Colored Insane Asylum, made as authorized by section 4437 of The Revisal of 1905, on the 29th day of December, 1910.

I was received cordially and shown through the institution by the Superintendent, Dr. Faison.

The institution is well heated, has an abundant water supply from several deep wells, and obtains its milk from its own herd of tuberculine-tested cattle.

The halls and rooms were remarkably clean, considering the class of people using them.

The first floor in one of the wings of the main building is very much worn, and it is impossible to keep such a floor in good sanitary condition. I would urgently recommend that you appeal to the Legislature for an appropriation sufficient to replace this old wornout flooring.

Respectfully submitted, W. S. RANKIN,
Secretary.

AGRICULTURAL AND MECHANICAL COLLEGE FOR THE COLORED RACE.

BOARD OF DIRECTORS,

Colored Agricultural and Mechanical College, Greensboro, N. C.

GENTLEMEN:—I have the honor to report the results of an inspection of the Colored Agricultural and Mechanical College, made in accordance with section 4437 of The Revisal of 1905.

I was cordially received by President Dudley, who escorted me through the buildings. Orderly arrangement and general cleanliness were everywhere apparent.

The writer was especially impressed with the care of the toilets. No closet was blocked, and there was a noticeable absence of the usual fragments of paper found in these places scattered about on the floors. The closets were, also, odorless, each one having its own disinfecting outfit.

The inspector was most favorably impressed with the absence of the common drinking cup; each student carries his own paper cup. An inspection of the dining room and kitchen showed them to be clean and sanitary.

The milk supplies are obtained from their own herd of tuberculine-tested cattle; the water is supplied by the city of Greensboro. The building is steam heated and well ventilated.

In concluding, the inspection was without notification, and the institution was found in excellent sanitary condition.

Respectfully submitted, W. S. RANKIN,
Secretary.

ANNUAL REPORT

Hookworm Commission to North Carolina Board of Health,
March 12, 1910—December 31, 1910

JNO. A. FERRELL, ASSISTANT SECRETARY TO NORTH CAROLINA BOARD
OF HEALTH FOR HOOKWORM DISEASE.

WORK OF CENTRAL OFFICE.

1. Literature on Hookworm Disease prepared and distributed:
 - a. Treatise, Hookworm Disease, North Carolina Health Bulletin, 18,500 copies
 - b. Pamphlet, Hookworm Disease..... 30,000 copies
 - c. Leaflet, Hookworm Disease..... 50,000 copies
 - d. Five Three-Minute Health Talks, Hookworm Disease. Publication, North Carolina Department of Education.
 - e. Stiles Soil Pollution Bulletin, by Department of Education.. 50,000 copies
 - f. North Carolina Health Bulletin—Hookworm edition..... 30,000 copies
 - g. Pamphlets on Sanitary Privy, by G. W. Lay..... 25,000 copies
 - h. Total number of pamphlets placed in the hands of people....140,000 copies
2. Newspaper Articles, Central Office clippings collected..... 3,600 inches
Newspaper Articles, Field Representatives. (Collections represented only small part)..... 1,000 inches
3. Physicians' Prescription Pads for Hookworm Disease..... 5,000 copies
4. Circular Letters Mailed (postage largely 2 cents)..... 8,000
5. Miscellaneous Business Correspondence—number of letters..... 1,300

RESULTS OF ACTIVITIES.

- 674 physicians have been interviewed.
 700 have attended lectures on hookworm disease by representatives of Board of Health.
 838 physicians have given reports concerning hookworm disease.
 400 physicians, up to September 1, 1910, have reported treating the disease.
 7,949 specimens examined in Laboratory for hookworm infection.
 70 specimens were sent to Laboratory by physicians first three months of 1910.
 4,972 specimens were sent to Laboratory by physicians last three months of 1910.
 7,949 specimens were sent to Laboratory by physicians during 1910.
 354 of 1,500 active physicians in State have used the Laboratory to have examinations for hookworm made.
 8,000 cases of hookworm disease, up to September 1, 1910, were reported as treated by the 400 physicians who reported.
 6,000 cases of hookworm estimated treated since September 1 (based on reports of physicians and number of examinations made).
 14,000 total cases treated in State.
 238 white schools inspected.
 105 open toilets found; six sanitary toilets found.
 20 negro schools inspected.
 10 open toilets found; none sanitary.

50,000 people (approximately) have been informed about hookworm disease by popular lectures.

33,162 school children reached by talks and visits of Department of Health Representatives.

Free treatment for indigent cases has been provided in about one-fifth of State by one or more of the following agencies: Free prescriptions by doctors, free drugs by Women's Betterment Association, Federation of Women's Clubs, Boards of County Commissioners, City Free Dispensaries. Has not effected much because we did not have enough men to follow up work.

Four County Boards of Education have made provision for installing sanitary toilets at every schoolhouse in the county.

State Superintendent of Public Instruction has included the following plans and specifications for all new public schoolhouses: "All plans for new schoolhouses must include plans for sanitary toilets, as contained in this pamphlet, and construction of these must be included in the building contract before approved by the State Superintendent of Public Instruction."

WORK OF FIELD REPRESENTATIVES.

	Dr. Page		Dr. Strosnider		Dr. Pridgen		Dr. Ferrell		Total 1910
	Prior to Sept. 30	Sept. 30 to Dec. 31	Prior to Sept. 30	Sept. 30 to Dec. 31	Prior to Sept. 30	Sept.30 to Dec. 31	Prior to Sept. 30	Sept. 30 to Dec. 31	
LECTURES									
Number of teachers' institutes attended.....	20	2	23	2	8	3	11	6	75
Number of teachers present.....	1,200	125	1,395	200	500	225	1,200	715	5,560
Number of public lectures delivered.....	6	5	8	17	4	10	5	7	62
Approximate number attending.....	450	375	1,200	2,500	200	600	-----	7,400	12,725
Number of school lectures delivered.....	8	133	-----	46	-----	68	-----	8	263
Number attending.....	1,625	9,160	-----	4,296	-----	3,276	-----	3,750	22,107
Number of special lectures delivered.....	15	4	-----	7	-----	23	-----	2	51
Number attending.....	400	120	-----	1,000	-----	580	-----	50	2,150
GENERAL INSPECTION									
Number of persons inspected (not in school—white).....	95	38	100	-----	516	1,200	50	50	2,049
Number of "suspects".....	45	17	-----	-----	300	300	25	35	722
SCHOOL INSPECTION									
Number of white schools inspected.....	8	116	-----	46	-----	62	-----	6	238
Number attending.....	1,625	10,016	-----	4,296	-----	3,276	-----	8,000	27,213
Number of "suspects".....	35	231	-----	1,745	-----	1,666	-----	2,000	5,677
Number of open privies found.....	14	28	-----	29	-----	30	-----	4	105
Number of sanitary privies found.....	-----	6	-----	-----	-----	-----	-----	-----	6
Number of water-system privies.....	-----	6	-----	2	-----	2	-----	8	18
Number of negro schools inspected.....	-----	18	-----	-----	-----	1	-----	1	20
Number attending.....	-----	720	-----	-----	-----	90	-----	30	840
Number of "suspects".....	-----	5	-----	-----	-----	0	-----	15	20
Number of open privies found.....	-----	8	-----	-----	-----	2	-----	-----	10
Number of sanitary privies found.....	-----	0	-----	-----	-----	0	-----	0	0

WORK OF FIELD REPRESENTATIVES—Continued.

	Dr. Page		Dr. Strosnider		Dr. Pridgen		Dr. Ferrell		Total 1910
	Prior to Sept. 30	Sept. 30 to Dec. 31	Prior to Sept. 30	Sept. 30 to Dec. 31	Prior to Sept. 30	Sept. 30 to Dec. 31	Prior to Sept. 30	Sept. 30 to Dec. 31	
WORK WITH MEDICAL PROFESSION									
Number of county medical societies attended.....	1	0	0	1	0	1	7	8	18
Number of district medical societies attended.....				1				3	4
Number of doctors attending meetings.....	10			25		10		535	580
Number of doctors interviewed.....	134	85	135	47	59	73	75	66	674
Number of cases treated by doctors interviewed.....		210		600	250	200		2,000	3,260
MICROSCOPICAL WORK									
Number of microscopical examinations made personally.....		20		70	100	178		15	383
Number of specimens sent to laboratory.....		748		421	366	1,935		1,000	4,470
Number of specimens sent to laboratory positive.....		181		276	200	806		350	1,813
PUBLICITY WORK									
Number of editors interviewed.....	25	15	25	10	12	25	25	20	157
Number of articles accepted and published.....	19	150	39	33	16	40		8	305
Number of hookworm pamphlets distributed....	2,000	3,000	1,400	3,534	1,000	1,500	1,200	1,000	14,634
Number of "Sanitary Privy" distributed.....	800	1,000		2,534		1,500		750	6,584
Number of hookworm leaflets.....		4,500				1,000		1,000	6,500
Number of miscellaneous pamphlets.....	100	300				150		500	1,050
NUMBER OF OFFICIALS INTERVIEWED.....		29		24	10	33		25	121
MILL INSPECTION									
Number of mills inspected.....		10				1		3	14
Number of operators present.....		2,600				100		3,000	5,700
Number of open privies found.....		450				4		500	954
Number of sanitary privies found.....		0				0		0	0
Cases treated by self and doctors in district, estimated from reports of physicians, county superintendents and teachers.....						1,151			1,151

WORK OF LABORATORY.

	<i>First Quarter</i>	<i>Second Quarter</i>	<i>Third Quarter</i>	<i>Fourth Quarter</i>	<i>Total 1910</i>	<i>Percent- ages</i>	
Number specimens of feces examinations made.....	70	486	2,421	4,972	7,949	20-25	
Number of doctors using laboratory.....					384		
No. of doctors doing active practice in State (approx.).....					1,500		
Average cost in salaries for each examination, preparing cases to be sent out, sterilizing used cases, and making records and notification.....					.14	Cost	
Average cost for each examination in transportation by mail and express on cases and containers.....					.02		
Average cost of containers used*.....					.03		
Total cost for each examination (providing no mailing cases are reused).....					.19		
Expense born by Laboratory—General Laboratory supervision by Director Dr. C. A. Shore, stenographic service, laboratory, room rent, sterilizing, letter postage, gas, water, etc.						State Expense	
Number of specimens showing negative findings.....	38	318	1,348	2,589	4,293	54	Results
Number specimens of feces showing hookworm ova.....	31	176	944	1,641	2,792	35	
Number of specimens showing ascariis (stomach worm) ova.....		6	125	610	741	9.3	
Number of specimens showing trichocephalus (whip worm).....	1		21	176	198	.0025	
Number of specimens showing hymenolepis (dwarf tapeworm).....		3	47	101	151		
Number of specimens showing oxuris ova (seat worm).....			8	12	20		
Number of specimens showing strongyloids ova.....		1	8	11	20		
Number of specimens showing tinia saginata ova.....	1	1	1		3		

*NOTE—This includes cost of cases we have on hand to be reused.

ROUTINE MICROSCOPIC EXAMINATIONS.

<i>Representative Bodies.</i>	<i>Examined.</i>	<i>Infected.</i>
North Carolina College Students.....	300	126
North Carolina Soldiers—		
First Regiment—Western Counties.....	372	139
Second Regiment—Eastern Counties.....	366	213
Third Regiment—Central Counties.....	73	24
Naval Reserves—Eastern and Central Counties.....	218	63
North Carolina Orphans—		
Odd Fellows' Orphanage.....	96	52
Methodist Orphanage	131	80
Presbyterian Orphanage	136	66
Baptist Orphanage	394	142
Masonic Orphanage (Negro).....	108	13
State Blind School.....	112	44
State Deaf and Dumb School.....	226	113
State A. and M. College (Negro).....	93	15

<i>Representative Bodies.</i>	<i>Examined.</i>	<i>Infected.</i>
County Public Schools—		
Burke County	521	255
Catawba County	56	9
Cleveland County	25	12
Davidson County	308	80
Duplin County	101	73
Guilford County	70	4
Lenoir County	54	21
McDowell County	372	200
Mitchell County	322	154
Pender County	126	93
Randolph County	146	17
Rowan County	17	00
Sampson County (Negro).....	15	7
Wake County	119	32
Wayne County	141	87
Yancey County	538	174
	<hr/>	<hr/>
Total examined	5,556	
Total infected		2,408
Percentage infected	43%	

PERSONNEL.

JNO. A. FERRELL, M.D., Assistant Secretary for Hookworm Disease.

Conductors of Field Campaign:

B. W. PAGE, M.D. C. F. STROSNIDER, M.D. C. L. PRIDGEN, M.D.

Laboratory:

C. A. SHORE, Director.

Microscopists:

C. F. KIRKPATRICK, Chief.

FRED. W. CONNOR.

HENRY C. JACKSON.

ARTHUR MCKIMMON.

GRIMES COWPER, JR.

Public Water Supplies

CIRCULAR A.

PREPARED BY J. L. LUDLOW, C.E.,

Engineer of the North Carolina Board of Health.

The State Board of Health, keenly sensible of the important relation existing between the public health and the standard of purity pertaining to the public water supplies of the cities and towns of the State, indulges the hope that all municipal authorities and others in control of the care and administration of this most important adjunct of modern municipal life will share with the Board in due appreciation of the desirability and necessity of safeguarding and preserving the purity and wholesomeness of water furnished for domestic use in the homes of our urban population.

Of necessity, the people must take and use such water as the duly constituted authorities see fit to furnish, in blind faith and reliance that the authorities are performing this duty with intelligence and fidelity. The responsibility attaching to such authority is enormous and far-reaching, meaning much of weal or woe according to the degree of purity of the water that is supplied.

There may have been a time when some of our cities and towns seemed too poor to be too particular about their public water supply, but no such condition of affairs can be said to exist now. As a matter of fact, there has never been a city or town in the world so poor that it could afford not to be most scrupulously exacting as to the quality of the water supply furnished to its inhabitants, and therein conserving the greatest of all its natural resources, the life and health of its people.

This theorem applies with equal force to the State, and its importance demands for it forceful recognition. The public, with its modern conception of the beneficence of sanitation, is rapidly evolving a due appreciation of the measure of its far-reaching influence, and is demanding sanity and strenuous integrity, in the administration of the public water supplies, and is ready to endorse any reasonable effort or expenditure to safeguard their purity and wholesomeness.

By statutory law, the State Board of Health is constituted the centralized authority and final custodian in matters pertaining to the public health interests of the State, and is charged with the duty of securing the observance and enforcement of the laws pertaining to, and properly conserving the safety and purity of, the public water supplies. This duty will be performed in so far as the authority and means of the Board permit. But it is thought and earnestly hoped that all officials and other persons in immediate charge and control of the public water supplies will so fully appreciate the importance of the work and so thoroughly co-operate in its accomplishment that directions and advice alone may suffice and that no occasion may arise to enforce by mandate through court procedure. The great importance of this co-operation is freely recognized and is accorded as being essential to the ready accomplishment of the results desired and to secure the high standard of purity in our public water supplies that the safety of the public health requires.

The attention of all municipal authorities and other persons in charge of

public water supplies is directed to the following sections of The Revisal of 1905, as amended by the General Assemblies of 1907 and 1909:

3058. *Precaution Against Contamination.*—In the interest of the public health every person, company or municipal corporation or agency thereof selling water to the public for drinking and household purposes shall take every reasonable precaution to protect from contamination and assure the healthfulness of such water; and any provisions in any charters heretofore granted to such persons, companies or municipal corporations in conflict with the provisions of this chapter are hereby repealed.

(a) The State Board of Health shall have the general oversight and care of all inland waters, and shall from time to time, as it may deem advisable, cause examinations of said waters and their sources and surroundings to be made for the purpose of ascertaining whether the same are adapted for use as water supplies for drinking and other domestic purposes or are in a condition likely to impair the interests of the public or of persons lawfully using the same, or to imperil the public health. For the purpose aforesaid it may employ such expert assistance as may be necessary. The said board shall make such rules and regulations as in its judgment may be necessary to prevent contamination and to secure such purification as may be required to safeguard the public health. Any individual, firm, corporation or municipality or the person or persons responsible for the management of the water supply failing to comply with said rules and regulations shall be guilty of a misdemeanor and upon conviction shall be fined or imprisoned, or both, at the discretion of the court.

(b) The said board shall from time to time consult with and advise the boards of all State institutions, the authorities of cities and towns, corporations or firms already having or intending to introduce systems of water supply, drainage, or sewerage as to the most appropriate source of supply, the best practical method of assuring the purity thereof, or of disposing of their drainage or sewage, having regard to the present and prospective needs and interests of other cities, towns, corporations or firms which may be affected thereby. All such boards of directors, authorities, corporations and firms are hereby required to give notice to said board of their intentions in the premises and to submit for its advice outlines of their proposed plans or schemes in relation to water supply and disposal of sewage, and no contract shall be entered into by any State institution or town for the introduction of a system of water supply or sewage disposal until said advice shall have been received, considered and approved by the said board. Violation of the provisions of this subsection (b) shall be a misdemeanor, and upon conviction those responsible therefor by neglect of duty shall be fined not less than \$50 nor more than \$200, at the discretion of the court.

(c) That for the purpose of carrying out the general provisions of the said section 3058, as set forth in subsections (a) and (b), every municipal or private corporation, company or individual supplying or authorized to supply water for drinking or other domestic purposes to the public shall file with the Secretary of the State Board of Health, within ninety days after the receipt of notice from said secretary, certified plans and surveys, in duplicate, pertaining to the source from which the water is derived, the possible sources of infection thereof, and the means in use for the purification thereof in accordance with the directions to be furnished by the said secretary. Failure to file said plans and surveys as required in this subsection (c) shall be a misdemeanor, and upon conviction those

responsible therefor by neglect of duty imposed hereby shall be fined not less than \$50 nor more than \$100, at the discretion of the court, and every delay of one calendar month after the expiration of the said ninety days shall be a separate offense.

In the exercise of the authority therein vested in the State Board of Health, it will be the purpose of the Board not to be unduly exacting in its requirements, and not to impose any unnecessary burden upon the municipalities and water companies. It will endeavor to confine its activities and requirements within such limitations as appear to be sufficient to accomplish the purpose intended, and to secure the practical results that the ethics of the situation and the public health demand.

With the large number to which the public water supplies of the State have grown in recent years, and constantly increasing, it has become essential to the exercise of the required supervision by the Board that it have on file in proper and systematic form the important data relating to the various sources of supply, pertaining to its quality, and concerning its purity. The proper directions relating to the inspection of the watersheds, and the interpretation and significance of the reports of these inspections, as well as the interpretation of the periodic analyses of the water supplied to consumers, require these data as a guide and chart. It is further realized that such data will be of great service and value to those in charge of the various supplies, in directing the administration of their works and in conserving the purity and wholesomeness of the water furnished under their responsible charge and control.

It is so manifest to the Board that the expense and trouble necessary to securing the desired data will be so fully repaid in beneficial results, that it is hoped and believed all the municipal corporations and private companies conducting public water supplies will promptly and cheerfully secure and furnish these data, when given directions as to the scope and character that is required.

It is therefore directed that the plans and surveys required to be made and furnished to the Board in accordance with subsection (c) of section 3058 shall embrace and fully cover the following data, viz:

The perimeter of the entire watershed tributary to the source of supply, showing the calculated area.

The location of the intake and pumping station.

The approximate course of the stream from which the supply is taken and all branch feeders to the stream.

The location and size of impounding reservoirs.

The approximate lines of cultivated, wooded, and old-field areas within the watershed area.

The approximate location of all farmhouses and other dwellings, and the number of persons occupying such premises. Should there be either running or dry branches or ditches contiguous to such dwelling houses, or to stables, cattle pens, or pig pens, note whether or not the outhouses, stables, cattle pens, or pig pens drain directly into such branches or ditches, or how far distant therefrom they are located.

Where factories or other industrial establishments or timber-cutting operations are located on the watershed, give number of operatives regularly employed and method of sewage disposal regularly practiced.

Where villages or groups of dwellings are located on the watershed, give data as to method of sewage and drainage disposal regularly employed.

The approximate location of all public roads, churches, burial grounds, camp-meeting grounds, parks or picnic grounds within one-half mile of the stream used as a source of supply, or any tributary thereof.

The approximate consumption of water per diem.

The size, type and make of filtration or other purification works attached to the plant, with size and character of storage for water after purification treatment. Also state the average number of hours per diem the filter plant is operated.

Where supplies are taken from streams more than fifteen miles from their source, the above requirements shall apply only to a point fifteen miles from the point of intake up the main stream and all tributary streams that enter the main stream within the fifteen-mile limit.

Where the supply is drawn from artesian or deep wells, or from gang wells, show location of well or wells relative to the city or town or other contiguous populated areas. Give number, size and depth of wells; the stratification penetrated; whether or not wells are cased; and method used in putting down wells, whether jetted, bored or driven. Where wells are located near streams that carry town drainage, state tributary population to such drainage, the length of the stream, and the high-water line of the stream relative to the well heads.

CIRCULAR B.

PREPARED BY J. L. LUDLOW, C. E.,

Member and Sanitary Inspector of the Board.

(To be distributed to property owners and to the heads of all households located on the watershed of public water supplies. See Section 39½, Public Health Laws of North Carolina.)

READ.

READ CAREFULLY.

AFTER READING, OBSERVE.

IT RELATES TO YOUR HEALTH, YOUR LIFE, AND PERHAPS

TO YOUR LIBERTY.

By reason of material resources and geological conditions, many of the cities and towns of the State must secure their water supply for drinking and domestic uses from the near-by surface streams.

The importance of the prosperity and growth of your neighboring town, and the life and health of its citizens, to your own material welfare and happiness, you will hardly question.

You are a resident on the watershed from which a large number of the citizens of must receive their water for drinking and other domestic uses.

Failure to properly observe and practice reasonable sanitary precautions on your own premises involves, in addition to your own life and health and that of your family, the life and health of a large number of people in your neighboring town, who may become the victims of your carelessness.

You would not aim and fire a loaded shotgun at a school full of children, nor at a church full of adults; yet to aim typhoid-laden excretions, or other forms

of organic filth, in the direction of a public water supply is far more liable to cause suffering and death, and while the law may not reach you, your moral responsibility is far greater. Avoid doing so.

The discharge of human excrement and other forms of filth in or near to a source of public water supply subjects many adults to the dangers of typhoid fever, and many babies and children to serious intestinal disorders, sickness, and death. You would avoid this; therefore, be careful to exercise reasonable precautions.

The promiscuous discharge of human excrement about your premises is primitive and indecent. It directly promotes the development of hookworm disease in your children, and yourself, too—if you go barefooted.

The maintenance of unsanitary privies on your premises is likewise indecent and offensive, and a source of grave danger to the health and life of your own family, and perhaps to many others.

A favorite route of travel for house flies is between a dirty privy or other deposit of human excrement and the family kitchen, soiling their feet in the privy and cleansing them in the kitchen on prepared food. This doesn't sound good to you, and perhaps you disbelieve it, but it's true and has been thoroughly demonstrated by careful investigations made by the United States Government and numerous State and city officials. Avoid it by providing sanitary privies, by using disinfectants freely, and preventing accumulations by frequent cleaning, burying the accumulations in the field a good distance from your well or any branch that leads toward a spring or public water supply.

The Secretary of the State Board of Health will furnish you information relating to sanitary privies and their maintenance, at no cost save a postage stamp to carry a request.

For every case of illness or death by typhoid fever some human being is directly responsible through a careless disposal of some infected substance. You would not have such a responsibility charged to your carelessness; therefore, observe well-known means of prevention.

Should a case of illness appear in your household, and the patient "feels played out," aches all over and loses appetite, then develops a fever with shivering or chilly feeling, a coated tongue and perhaps a bronchial cough or nose-bleed, be suspicious of typhoid fever at once. Send for your physician, and notify the superintendent of waterworks, that he may aid you in putting up barriers against its spread to others. Do not fail to thoroughly disinfect all bowel and kidney discharges from the patient by the free use of freshly slacked lime, carbolic acid, bichloride of mercury, or chloride of lime, immediately upon the first sign of suspicion—and continue to do so for some time after the patient recovers, in the event it proves to be a case of typhoid, however mild. To omit this precaution will most likely mean the transmission of the disease germs to other members of your family, and probably to a large number of persons. Great typhoid epidemics have been traced directly to the failure to practice this simple precautionary measure. (See "Typhoid Fever—Rules for Its Prevention.")

In typhoid cases there are other precautions to be taken for the protection of your family, regarding which your physician will advise and inform you. Take them seriously and practice them scrupulously to avoid the personal responsibility for the sickness and death of others and perhaps large numbers of people.

By the laws of the State, section 3862, it is made a misdemeanor to "defile, corrupt or pollute any well, spring, drain, branch, brook or creek, or other source of public water supply used for drinking purposes, in any manner, or to deposit the body of any dead animal on the watershed of any such water supply, or allow the same to remain thereon, unless the same is buried with at least two feet cover," punishable by fine and imprisonment, in the discretion of the court.

Section 3857 makes it a misdemeanor for any person to collect and deposit human excrement on the watershed of any public water supply, punishable by fine and imprisonment, in the discretion of the court.

Sections 3052 and 3800 make it a misdemeanor for any person to violate the law for the protection of the watersheds of public water supplies by failing to provide a system for the collection of human excrement from "all schools, hamlets, villages, towns or industrial settlements," and its disposal in a manner approved by the State Board of Health, punishable by fine or imprisonment, in the discretion of the court.

Sections 3051 and 3058 make it a misdemeanor for any town or city authorities to discharge the accumulations of a sewage system into any drain, creek, brook or river from which a public drinking water supply is taken, without first having it treated by a system of purification to be approved by the State Board of Health, and the discharge of such raw sewage may be enjoined upon the application of any person.

Sections 3045 and 3048 require every water company and every city or town having a public water supply to have a complete sanitary inspection of the entire watershed at stated intervals, in accordance with instructions to be given by the Secretary of the State Board of Health; the sanitary inspector to give to the head of each household on the watershed directions for the sanitary care of his premises, the result of such inspection to be reported to said Secretary. Section 3861 makes it a misdemeanor for the officials of cities or towns to fail to make such inspections and reports, punishable by a fixed fine or period of imprisonment.

Section 3049 makes it a misdemeanor for the head of the household or any other persons residing or owning property on the watershed of any public water supply to fail to carry out such reasonable instructions as may be furnished him in the matter hereinbefore set forth, or directly by the State Board of Health.

Section 3050 authorizes and empowers every sanitary inspector to enter on any premises and into any building upon his respective watershed for the purpose of making the sanitary inspections of the watershed.

Section 3457 makes it the duty of the solicitors of the several judicial districts to institute criminal action for the violation of any of the laws pertaining to the protection of public water supplies, occurring within their respective jurisdictions, upon the complaint of the Board of Health, or of any individual injured or likely to be injured.

Section 3045 and subsection (a) of section 3058 authorize and require the State Board of Health to prescribe instructions for the inspection of the watersheds of public water supplies and to make such rules and regulations concerning the occupancy of such watersheds as it may deem necessary to protect the public water supplies from undue contamination.

In formulating such instructions, and such rules and regulations, the Board will not be unmindful of the rights and privileges of the owners of property and of the persons who reside on the watersheds of the several public water

supplies in the State, nor of the duty of water companies, or towns and cities owning waterworks, to carry their full share of responsibility and to use all practicable means of protecting and purifying the water supply before delivering it to consumers. It will, however, be mindful of, and would invite your consideration to, the essential basic principle of civilized governments, that individual rights and liberties must be reasonably subservient to the public rights and the public good, particularly in matters pertaining to the public health.

The Board will not formulate or endorse any rule or regulation relating to the occupancy of the drainage area of any public water supply that will substantially involve the confiscation or the taking of any property, or the prevention of the reasonable and legitimate use heretofore made of such property, without reasonable compensation being given therefor by the city or town or other corporation in whose interest the property is taken or for whose use it is desired, whenever such use is not in clear violation of the public health laws of the State. It will, however, formulate or endorse such reasonable rules and regulations as may be presented by any city, town or other corporation, conducting a public water supply, which may be particularly applicable to any such public water supply, and that may be considered by those in charge of such supplies to be essential to their protection.

The Board will further issue special rules and regulations pertaining to the occupancy and sanitary inspection of certain watersheds, when the detailed information relating to the several drainage areas of the public water supplies has been obtained. These data are required to be furnished by enactment of the Legislature of 1909, and are now in course of preparation by the several cities, towns, and water companies.

The following general rules and regulations concerning the occupancy of the drainage area of public water supplies from surface streams are issued in compliance with said subsection (a) of section 3058 of the Public Health Laws of North Carolina. The general observance of and full compliance with all these rules and regulations is considered to be of great importance to the public health interests of the State, and it will be the purpose of the State Board of Health to secure such observance and compliance at the earliest period that may be found to be practicable. In such an effort the earnest co-operation of all residents on such watersheds, and of municipal authorities having public water supplies, is earnestly desired. Some of these rules are so necessary for the public health as to be mandatory, and these numbers are printed in heavy type; others, whose importance will depend upon local conditions, are advisory, and are printed in a lighter type. These rules shall be considered to be in force, and the official inspectors of the various watersheds shall be guided by them in making inspections and in giving instructions to the occupants of watersheds relating to the sanitary care of their premises, reporting any violations found to the Secretary of the North Carolina Board of Health, as provided in section 3045 of the Public Health Laws of North Carolina. The secretary will exercise discretion in reporting such violations to the solicitor, according to the relative importance of the rule violated and the extent and circumstances of its violation.

PERTAINING TO SURFACE WATER SUPPLIES WITH DRAINAGE AREA OF LESS THAN
TWENTY SQUARE MILES.

RULE No. 1. No fishing, boating, bathing or wading shall be permitted on any impounding reservoir or ponds of a water supply intake, and no loitering, pic-

nickering or hunting shall be permitted around the margin of such reservoirs or ponds.

RULE No. 2. No plowing, cultivating or pasturing shall be permitted within 50 feet of such reservoirs or ponds; such 50-foot margin shall be kept free by the municipal or the private water company from briar or thicket growth, but tree and shrubby growth shall be cultivated thereon, under proper conditions for conserving the purity of the water.

Rule No. 3. No public highway or railroad shall be established within 100 feet of the margin of such reservoir or pond.

RULE No. 4. No fishing, boating, bathing, wading, picknicking or camping, nor the washing, wallowing on or habitual watering of any horses, mules, cattle, hogs, sheep, goats, or other large animals, shall be permitted in or upon or along the margin of the main streams and tributaries which supply water to such reservoir, pond or public water supply.

RULE No. 5. No plowing, cultivating, mowing or pasturing shall be permitted within 5 feet of the margin of any of said streams or tributaries. No spreading of any barnyard manure or compost shall be permitted within 25 feet of said margin, nor within 250 feet of the margin of said reservoirs or ponds or any streams or tributaries thereto without being plowed in or otherwise covered within 10 hours after being spread.

RULE No. 6. No stock shall be confined within 40 feet of the margin of any of said reservoirs or ponds, or the streams tributary thereto, however small, even though they may be dry branches during a portion of the time.

Rule No. 7. No hog pen, cattle pen, horse or mule lot, poultry house, hitching or standing place for horses or cattle, or any other place where animal manure accumulates, shall be maintained or used within 300 feet of any of said reservoirs, ponds, streams and tributaries, nor from the head of the valley in which any of said streams and tributaries originate. Any ditch, either cut or eroded, from such pens or lots, shall be considered a tributary to the streams. All such pens and lots, when situated within 600 feet of any running stream or dry branch or ditch, shall be cleaned at least once a month, and the accumulated manure or other decaying matter disposed of in the barnyard manure pile or compost heap, or it may be spread upon the land, distant not less than 500 feet from said reservoirs, ponds, streams and tributaries.

RULE No. 8. No stable, cattle barn, hog lot or manure pile shall be maintained within 500 feet of any of said reservoirs, ponds, streams or tributaries, except under such care and management as may be prescribed by the State Board of Health in special cases.

RULE No. 9. No human excrement or urine shall be voided or deposited within a distance of 100 feet from the margin of said reservoirs, ponds, streams, branches, springs or other tributaries thereto, nor shall any water that has been used for washing clothing, bedding, carpets, harness, persons, horses, cattle or other animals, nor any sewage, garbage, house slops, kitchen waste, or other form of decaying, foul, noxious or putrescible matter, either solid or liquid, be thrown, spread or otherwise deposited on the surface of the ground within said 100-foot margin. No washing of clothing, bedding or carpets shall be done within a distance of 200 feet from the margin of said reservoirs, ponds, streams, branches, springs or other tributaries thereto.

RULE No. 10. No collection of human excrement or urine shall be deposited in a barnyard manure pile or compost heap, nor upon the surface of the ground

within the area of the watershed, nor shall such matter be otherwise deposited thereon, except it be buried with at least one foot of cover and not nearer than 1,000 feet of said reservoirs or ponds, and 500 feet of any of said streams or tributaries.

RULE No. 11. No dwelling-house shall be built within 200 feet, and no privy for the deposit or storage of human excreta shall be used within 300 feet of any of said reservoirs, ponds, streams or tributaries. No house on the watershed shall be occupied as a dwelling without having as an adjunct a standard sanitary privy equipped with a water-tight tub or other suitable receptacle, the contents and accumulations of which shall be removed and buried at such frequent intervals as to prevent any overflow therefrom on the surrounding premises.

RULE No. 12. No dwelling-house on such watershed shall make use of any sanitary equipment, such as laundry tubs, bath tubs, bath toilets, lavatories, or kitchen sinks, unless the discharge therefrom is disposed of by some standard disposal system to be approved by the State Board of Health, and in no case shall such discharge be led into or directed toward any stream, branch or tributary of the public water supply.

RULE No. 13. No carcass of any dead animal, nor animal offal, shall be thrown into any stream, reservoir or pond, nor deposited upon the surface within the area of the watershed, nor shall any such carcass be permitted by the owner of the land where found to remain unburied for a period exceeding 10 hours after being known to, found by, or reported to, such owner. Such carcass shall be buried with not less than two feet of cover at a point distant from any of said streams or tributaries not less than 500 feet, except in cases where a carcass may be found that has decomposed to such an extent as to prevent its removal, when it may be buried near the point found, but distant not less than 50 feet from any stream or tributary.

RULE No. 14. No burial ground shall be established within the area of the watershed.

RULE No. 15. No camp-meeting grounds, picnic grounds, or other place of public assembly shall be established or maintained upon the area of the watershed within one mile of the stream or any of the tributary branches. Churches and schoolhouses shall be exempt from this rule, but these must be provided with sanitary privies, as set forth in Rule No. 11.

RULE No. 16. No construction camps for railroad or highway building shall be established or maintained within the area of the watershed. Nor shall any number or group of laborers be employed on such construction or in lumbering or similar operations, within the watershed area, without giving advance notice thereof to the mayor of the city or town deriving its water supply therefrom, and to the Secretary of the State Board of Health, who will prescribe rules and regulations to govern the conduct of such work pertaining to the sanitary protection of the water supply during such operations.

RULE No. 17. No parks or other places of resort for the use and entertainment of the public shall be established or maintained within the area of the watershed.

RULE No. 18. No hotel, boarding-house, sanatorium, hospital, manufacturing plant, hamlet, village, group of dwellings, lumbering operations, or industrial settlement shall be established or maintained within the area of the watershed, except that where such institutions already exist their use may be continued by permission of the State Board of Health under restrictions and conditions as to the disposal of sewage and drainage to be given by said Board.

PERTAINING TO SURFACE WATER SUPPLIES WITH DRAINAGE AREA BETWEEN TWENTY AND FIFTY SQUARE MILES.

RULE No. 19. The foregoing Rules Nos. 1, 2, 3, 6, 7, 8, 9, 10, 12, 13, 15, 16 and 18 shall apply to the entire watershed, with a limited distance of 50 feet for Rule No. 3.

RULE No. 20. The foregoing Rule No. 4 shall apply within a distance of 10 miles from the waterworks intake, and, in regard to picknicking and camping, to the entire watershed area.

RULE No. 21. The foregoing Rule No. 5 shall apply within a distance of 10 miles from the waterworks intake.

RULE No. 22. The foregoing Rule No. 11 shall apply to the entire watershed, except as to sanitary privies, which shall only apply within a distance of 10 miles from the waterworks intake, and within a distance of 300 feet from the main stream and the principal tributaries thereto.

RULE No. 23. The foregoing Rule No. 14 shall apply within a distance of 10 miles from the waterworks intake, and within 500 feet from the main stream from which the water is taken, and within 300 feet from any of its tributaries, on the entire watershed.

RULE No. 24. The foregoing Rule No. 17 shall apply within a distance of 5 miles from the waterworks intake. Beyond this distance, existing parks may be maintained upon condition that provision shall be made for the collection of sewage and garbage and its disposal, to be approved by the State Board of Health, and that the park and its environments shall be effectively patrolled at all hours when such park is open and in general use, to secure the observance and enforcement of all the foregoing rules pertaining to the pollution of the adjacent streams or tributaries.

PERTAINING TO SURFACE WATER SUPPLIES FROM STREAMS HAVING A DRAINAGE AREA BETWEEN FIFTY AND ONE HUNDRED SQUARE MILES.

RULE No. 25. The foregoing Rules Nos. 1, 2 and 3 shall apply to such a source of supply, with a limiting distance of 30 feet for Rule 3.

RULE No. 26. The foregoing Rule No. 4 shall apply within a distance of 5 miles from the waterworks intake, pertaining to fishing, boating, wading, and to watering stock; pertaining to bathing and picknicking, 10 miles, and camping, to the entire watershed.

RULE No. 27. The foregoing Rules Nos. 5 and 11 shall apply within a distance of 10 miles from the waterworks intake.

RULE No. 28. The foregoing Rules Nos. 6, 7, 8, 9, 10, 12, 13 and 18 shall apply within a distance of 20 miles from the waterworks intake.

RULE No. 29. The foregoing Rules Nos. 10, 13, 16 and 24 shall apply to the entire watershed.

RULE No. 30. The foregoing Rule No. 14 shall apply within a distance of 5 miles from the waterworks intake, and within 500 feet from the main stream from which the water is taken, and within 300 feet from any tributary thereof.

PERTAINING TO SUPPLIES TAKEN FROM LARGE RIVERS AND STREAMS HAVING MORE THAN ONE HUNDRED MILES OF DRAINAGE AREA.

RULE No. 31. The foregoing Rules Nos. 1, 2 and 3 shall apply to such a source of supply, with a limiting distance of 20 feet for Rule 3.

RULE No. 32. The foregoing Rules Nos. 4 and 5 shall apply within a distance

of 5 miles from the waterworks intake, except as pertains to camping it shall apply within a distance of 20 miles.

RULE No. 33. The foregoing Rules Nos. 6, 7, 8, 9, 10, 12, 15 and 18 shall apply within a distance of 15 miles from the waterworks intake.

Rule No. 34. The foregoing Rules Nos. 11 and 24 shall apply within a distance of 10 miles from the waterworks intake.

RULE No. 35. The foregoing Rules Nos. 13 and 16 shall apply within a distance of 20 miles from the waterworks intake.

RULE No. 36. The foregoing Rule No. 14 shall apply within 500 feet from the main stream or 300 feet from any tributary stream within a 10-mile limit from the said point of intake.

The foregoing Public Water Supplies Circular B, containing rules and regulations for the protection of the public water supplies of the State that are derived from surface streams, is published and issued as an official document by the North Carolina Board of Health from its office in the city of Raleigh, this the 1st day of October, 1909.

W. S. RANKIN, M.D.,

Secretary and Executive Officer of the Board.

CIRCULAR C.

INSTRUCTIONS FOR THE GUIDANCE OF INSPECTORS OF THE WATERSHEDS OF PUBLIC WATER SUPPLIES THAT ARE TAKEN FROM SURFACE STREAMS IN ACCORDANCE WITH SECTION 3045 OF THE PUBLIC HEALTH LAWS OF NORTH CAROLINA.

PREPARED BY J. L. LUDLOW, C. E.,
Member and Sanitary Engineer of Board.

INSTRUCTIONS.

The reports of inspectors shall be made on the blank form designated as Public Water Supplies Inspector's Report, Form A, with all the blank spaces fully filled out to cover the information and data indicated. The reports shall also include full detail data of any unsanitary condition that may be found to exist on the watershed, though not referred to in the printed form. For such data and information, and for full reports otherwise, where sufficient blank space is not found on the printed form, the data shall be typewritten on additional sheets, in suitable form for folding and filing, securely pasted in the proper blank spaces.

The reports shall be made in duplicate and transmitted promptly to the Secretary of the North Carolina Board of Health. Their accuracy shall be certified to by an affidavit of the inspector, together with a certificate of the mayor of the town or city supplied, that the inspector is competent to make such inspection.

The inspection shall cover the entire watershed where the drainage area of the stream from which the supply is taken is not greater than fifty square miles; and where such drainage area exceeds fifty square miles, the inspection shall cover the entire watershed that is within a distance of fifteen miles from the point of intake.

The inspector shall carefully examine the surroundings of reservoirs, ponds, or other waterworks intake, and follow throughout their length the main stream and all its tributary branches, particularly springs and spring branches. He shall note carefully all the conditions found, to detect any evidence of unsanitary practices or violations of the rules and regulations contained in Public Water Supplies Circular B, particularly as to the presence of pig-pens, privies, hog or cattle lots, manure piles, or accumulation of decaying organic matter, within the prohibited distance of any of the streams or tributaries, and laundering operations near the springs and spring branches.

The inspector shall examine the premises of every inhabited house within the prescribed range of the inspection for the watershed, making a careful study of the sanitary conditions. He shall note particularly the location relative to ditches or branches of the places of easement and outhouses, the stables, hog and cattle pens or lots, manure piles or barnyard accumulations, any deposit of decaying organic matter, and the conditions in which they are maintained and cared for. He shall give such instructions to the occupants of all dwellings, relative to the sanitary care of their premises, as the sanitary conditions found may render advisable and pertinent. Furthermore, he shall leave with some adult member of each family a copy of Public Water Supplies Circular B, or he shall read or recite to such members of each family that may be found on the premises sections 3862, 3857, 3049, 3050, 3457, 3045 and 3058a of the Public Health Laws, and Rules 4 to 14, inclusive, of said Circular B, or their modification for watersheds of such area as that being inspected.

The inspector shall make careful inquiry at each inhabited house regarding the health of its inmates, both at the time of his inspection and during the interim since the preceding inspection. His inquiries shall be particularly directed towards detecting any case of typhoid fever then active or which has occurred, in order that he may give proper instruction for the disposal of the dejecta from such patients, with other directions to prevent the spread of infection.

Where factories, timber-cutting operations, or other industrial enterprises, villages, or groups of dwellings exist or are conducted within the area of the watershed, the inspector shall make a particularly careful examination and inspection of all conditions pertaining to the sanitation of such institutions and their surroundings. He shall make a careful search for any accumulations of fecal matter or other decaying organic matter. He shall investigate the method practiced in the disposal of sewage, including excrementitious matter, house slops, and kitchen refuse. Where the tub system for the collection of human excrement is in use, he shall make a thorough and careful investigation as to how well such system is conducted and cared for, how often the tubs are emptied, and how treated or disinfected before being placed in use again, where the contents of the tubs are finally disposed of and how treated to be rendered inoffensive and harmless to the surroundings and to any tributaries of the public water supply, and whether or not section 3052 of the Public Health Laws is properly complied with. Where such tub system is not in use for any camp for industrial operations or other group of dwellings, he shall note carefully and report what disposition is made of excremental matter and other organic wastes; he shall further apprise the person or persons in charge of the premises of the law relating to such matters (section 3052, etc.) and urge a voluntary and immediate compliance therewith.

3. In case any evidence was found of unsanitary conditions and practices other than those referred to in said Circular B, state fully the nature and extent of such conditions and practices and who was guilty of or responsible therefor.

4. State how many farm houses or other dwellings were visited while making the inspection; and if any were omitted, state whose and why they were omitted.

5. State the general sanitary conditions found on the premises visited, following the rules and suggestions contained in Public Water Supplies Circular C, and what instructions were given relative to the sanitary care of such premises.

6. State if any cases of sickness were found on any premises or dwellings, the nature of the sickness and in whose family.

7. If any cases of typhoid fever were found, state in whose family, and what instructions given as to the treatment of the dejecta from such patients, and what other instructions were given to prevent the spread of infection.

8. State how dejecta from such typhoid patients had been treated and disposed of prior to your inspection.

[illegible]

9. State what further efforts will be made to prevent the spread of infection from such typhoid patients.

[illegible]

10. State within how many households a copy of Circular B was left, or in how many was read to some of the residents thereof, sections 3862, 3857, 3049, 3050, 3457, 3045 and 3058a of the Public Health Laws, and Rules Nos. 4 to 14, inclusive, or their modifications for watersheds of different areas, of Public Water Supplies Circular B. Also state if any one declined or refused to listen to their reading, who did so, and the reasons given.

This image shows a full page of dot grid paper. It consists of multiple horizontal rows of small, evenly spaced black dots on a white background. The dots are arranged in straight lines across the entire width of the page, providing a guide for writing or drawing without solid lines.

11. Give full details relating to inspection of factories, timber-cutting operations or other industrial operations, villages or groups of dwellings within the drainage area of the water supply, including the distance from the waterworks

This image shows a full page of dot grid paper. The dots are arranged in a precise, repeating pattern across the entire surface, forming a grid that is useful for writing, drawing, or organizing information. The dots are small and evenly spaced both horizontally and vertically.

13. Give full information relative to location and other important data of any new residences or other buildings or enterprises that were not shown on watershed map nor included in previous Inspector's reports.

[illegible]

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Personally appeared before me,.....,
to me known to be the person who signed the foregoing report, who, upon being
duly sworn, deposes and says that the statements contained in and attached
thereto, are in all respects true to the best of his knowledge and belief.

This the..... day of....., 191....

.....
Notary Public for the County of.....
State of North Carolina.

I hereby certify that....., who
made the watershed inspection and signed the foregoing report, is a competent
person to make such an inspection and report.

.....
Mayor of.....N. C.

Dated:

Report of Treasurer

W. S. Rankin, Treasurer, in account with the North Carolina State Board of Health—January 1, 1909-December 31, 1910.

1909.		DISBURSEMENTS.	
Jan.	23.	Stamps	\$20.00
Feb.	2.	Postal Cable Telegraph Company, February telegrams.....	1.23
	6.	Carolina Electric Company, wiring Capitol, Dr. Wertenbaker's lecture	30.00
	20.	Stamps	10.00
Mar.	1.	Southern Express Company, February expressage.....	1.20
	4.	Miss Mabel Massey, stenographer, January and February salary	50.00
		Richard H. Lewis, Secretary and Treasurer, January and February salary	166.66
	5.	W. G. Briggs, Postmaster, deposit to pay postage on Bulletin	10.00
	6.	Baptist Bookstore, office supplies.....	2.10
	12.	Stamps	10.00
	16.	T. E. Green, typewriter supplies.....	1.65
		Alfred Williams & Co., office supplies.....	5.81
		Charities Publishing Committee, 1 year's subscription, Charities and The Commons.....	2.00
		Western Union Telegraph Company, February telegrams....	2.75
Apr.	2.	Postal Cable Telegraph Company, March telegrams.....	1.47
		T. E. Anderson, <i>per diem</i> and expenses Raleigh meeting of Board	22.80
		Miss Mabel P. Massey, stenographer, March salary.....	25.00
		Richard H. Lewis, Secretary and Treasurer, March salary..	83.33
		Lewis, Battle & Tucker, office rent, first quarter.....	30.00
	22.	Stamps	20.00
	27.	Baptist Bookstore, office supplies.....	1.85
		Southern Express Company, exhibition International Tuberculosis Congress	2.10
May	1.	Miss Mabel P. Massey, stenographer, April salary.....	25.00
		Richard H. Lewis, Secretary and Treasurer, April salary....	83.33
	4.	Powell & Powell, one-half ton coal.....	4.50
	14.	Miss Juliet Crews, 1 day's work, mailing amended laws.....	1.00
	15.	Miss Lily Skinner, one-half day's clerical work.....	1.00
June	1.	Miss Mabel P. Massey, stenographer, May salary.....	25.00
July	3.	Lewis, Battle & Tucker, office rent, second quarter.....	30.00
		Dr. R. H. Lewis, Secretary and Treasurer, May and June salary	166.66
		Alfred Williams & Co., office supplies as per voucher.....	2.00
		Dr. H. M. Bracken, Secretary and Treasurer, annual dues Con. State and Prov. Boards Health.....	15.00
		Powell & Powell, one-half ton coal.....	4.50
		Western Union Telegraph Company, March bill.....	.91

July	3.	Dr. J. Howell Way, per diem and expenses, Raleigh and Asheville meetings of Board and balance on old account..	\$53.65
		Dr. Geo. G. Thomas, per diem and expenses, Raleigh and Asheville meetings	36.00
		Dr. Thomas E. Anderson, per diem and expenses Asheville meeting	35.85
		Col. J. L. Ludlow, per diem and expenses, Winston and Raleigh meetings and inspection at Montrose.....	73.00
		Dr. Edw. C. Register, per diem and expenses, Raleigh meeting of Board	24.45
		Dr. D. T. Tayloe, inspection convict camp, Goldsboro Hospital and per diem and expenses, Raleigh meeting.....	57.05
		Dr. R. H. Lewis, expenses, conference with Surgeon-General and Nat. Con. State and Prov. Boards Health of N. A....	34.50
		Dr. R. H. Lewis, expenses, annual meeting at Asheville.....	28.60
		Dr. J. A. Burroughs, per diem and expenses, Raleigh meeting	29.45
	6.	Miss Mabel Massey, stenographer, June salary.....	25.00
		Southern Express Company, in full to June 26th.....	1.00
		Deposit for postage on second-class matter—Bulletin.....	5.00
	10.	Stamps	50.00
		H. B. Taylor, staining office floor.....	1.60
	13.	Miss Grace Crews, clerical services, mailing Bulletin.....	1.25
	15.	Dr. Edward C. Register, 1 year's subscription Charlotte Medical Journal	2.50
		Alfred Williams & Co., mimeograph supplies.....	4.00
		J. E. Mitchell, work as carpenter in changing office.....	8.25
		Dr. W. O. Spencer, per diem and expenses Raleigh and Asheville meetings of Board.....	53.25
		Dr. James A. Burroughs, per diem Asheville meeting of Board	8.00
Aug.	2.	Boylan-Pearce Company, rug for office and 1 dozen towels...	23.00
		Dr. Edward C. Register, per diem and expenses Asheville meeting of Board	40.30
		J. B. Lippincott Company, 1 copy "Sanitary Engineering"..	14.00
		Miss Mary V. Marsh, clerical services.....	5.00
		Miss Mabel Massey, stenographer, July salary.....	55.00
		Southern Express Company, July statement.....	1.15
		Robbins Livery Stable, horse and buggy, July 3d.....	3.00
	3.	Capital Furniture Company, 2 chairs for office.....	9.50
		Hart-Ward Hardware Company, stain, filler and wax for floors	5.00
		Stamps	10.00
	4.	Royal & Borden Furniture Company, desk and tips for chairs	15.40
		R. L. Green, shades for office.....	3.75
		Raleigh Furniture Company, revolving chair.....	6.25
		W. S. Rankin, Secretary and Treasurer, July salary.....	250.00
		W. S. Rankin, Secretary and Treasurer, traveling expenses and inspections	31.40

Aug. 4.	W. S. Rankin, Secretary and Treasurer, for amount of vouchers attached	\$1.65
5.	Postal cards	10.00
6.	State Laboratory of Hygiene, replace amount drawn from wrong account	2.00
	Postal Telegraph Cable Company, July messages.....	.93
	Alfred Williams & Co., office supplies.....	3.40
11.	J. F. Kenny, 2 maps of North Carolina.....	2.70
14.	W. R. Macy, signs.....	3.50
	Dr. Geo. G. Thomas, President, per diem and expenses meeting Executive Committee, August 13, 1909.....	11.75
	Dr. R. H. Lewis, per diem and expenses meeting of Executive Committee, August 13, 1909.....	5.00
	Sherwood Brockwell, repair to typewriter.....	1.00
18.	Library Bureau, 1 copy Dewey Decimal Classification.....	5.00
	Stamps	10.00
	Mrs. W. J. Crews, mailing July Bulletin.....	7.50
20.	Col. J. L. Ludlow, per diem and expenses Asheville meeting of Board and special record book.....	38.45
23.	Dr. R. H. Lewis, Secretary and Treasurer, to balance account of State Board of Health.....	73.41
24.	Charity Organization Society, 1 copy "Tuberculosis, a Curable and Preventable Disease".....	2.20
25.	Western Union Telegraph Company, July account.....	1.38
Sept. 3.	Miss Mabel Massey, stenographer, August salary.....	55.00
	Stamps	10.00
	T. F. Brockwell, keys and repairing lock.....	1.25
6.	State Company, 1 copy "Pellagra".....	2.00
28.	Miss Annie Duncan, 39 hours clerical services at 25 cents per hour	9.75
9.	J. D. Riggan & Co., 1 wastepaper basket.....	.75
	Postal Telegraph Cable Company, August messages.....	1.16
	Miss Madge Herring, clerical services.....	1.13
10.	Stamps	10.00
11.	Mrs. W. J. Crews, mailing August Bulletin.....	7.50
13.	Western Union Telegraph Company, August statement.....	1.14
14.	Johnson & Johnson Company, 150 bricks.....	1.20
	F. White, fitting grates in two fireplaces.....	8.35
29.	Capital City Telephone Company, rent No. 164, part of August and September.....	5.80
30.	W. S. Rankin, Secretary and Treasurer, August salary.....	250.00
	W. S. Rankin, Secretary and Treasurer, traveling expenses in August	59.75
	Col. J. L. Ludlow, per diem and expenses inspection Buckeye watershed	11.00
	Col. J. L. Ludlow, expenses investigation Girard Ozone Plant	55.80
	Col. J. L. Ludlow, per diem and expenses meeting Executive Committee, Raleigh, August 13, 1909.....	14.40
	Alfred Williams & Co., office supplies.....	1.40
	Lea & Febiger, 1 copy Egbert's "Hygiene".....	2.25

Sept. 30.	Miss Mabel P. Massey, September salary.....	\$55.00
Oct. 1.	Powell & Powell, 1 ton of coal and one-fourth cord wood....	7.25
2.	Southern Express Company, September account.....	1.35
4.	W. S. Rankin, Secretary and Treasurer, expenses of Northern trip as per voucher attached.....	95.70
	W. S. Rankin, Secretary and Treasurer, September salary..	250.00
7.	J. E. Mitchell, case for filing maps.....	3.75
8.	Hart-Ward Hardware Company, 2 grates.....	7.75
11.	Southern Express Company	3.15
	Western Union Telegraph Company, September messages...	.81
12.	Thos. Y. Crowell Company, 1 copy "Great White Plague"...	1.10
13.	Stamps	20.00
16.	Lewis & Battle and Tucker, office rent, third quarter.....	60.00
	Dr. R. H. Lewis, expenses of meeting of A. P. H. A. at Winnipeg by resolution of Board at Asheville meeting.....	125.00
	Miss Annie B. Duncan, 6 days clerical work.....	11.35
20.	Sylvester Dunston, tinting walls in office.....	9.50
28.	Mrs. W. J. Crews, mailing September Bulletin.....	7.50
30.	Capital City Telephone Company, rent No. 164, October, and long distance	4.25
	Lea Febiger, Osler's Modern Medicine, Vols. I-VI.....	36.00
	Macmillan Company, Allbutt's System. 8 vols.....	48.00
	T. E. Green, typewriter supplies.....	1.90
	Miss Mabel Massey, stenographer, October salary.....	55.00
Nov. 1.	Southern Express Company, expressage in October.....	2.15
4.	Hart-Ward Hardware Company, tinting for walls.....	3.90
8.	Busbee & Busbee, Agents, one-half premium on bond as Treasurer	10.00
9.	Postal Telegraph Cable Company, September messages.....	.52
10.	Stamps	10.00
11.	Alfred Williams & Co., office supplies.....	2.30
	Miss Annie B. Duncan, 4 days, 3½ hours clerical services...	8.88
12.	Capital City Telephone Company, rent No. 164, November, and long distance messages in October.....	4.23
	Carolina Electrical Company, 1 drop light.....	4.50
13.	Mr. L. L. Dail, 25 hours, newspaper reports of deaths.....	5.00
	Western Union Telegraph Company, October messages.....	1.16
	Postage on Bulletin.....	5.00
16.	W. S. Rankin, Secretary and Treasurer, October salary.....	250.00
	W. S. Rankin, Secretary and Treasurer, traveling expenses October	62.50
	W. S. Rankin, Secretary and Treasurer, amount of attached vouchers	4.75
	W. S. Rankin, Secretary and Treasurer, annual dues A. P. H. A.	5.00
26.	Albert Hopkins, staining case for maps.....	1.00
27.	Mrs. W. J. Crews, mailing October Bulletin.....	7.50
Dec. 1.	Baptist Bookstore, office supplies.....	1.95
	Miss Mabel Massey, stenographer, November salary.....	55.00
	Southern Express Company, November statement.....	5.55
	Bearer, stamps	20.00

Dec.	4.	Sherwood Brockwell, repair to typewriter.....	\$1.40
	6.	Macmillan Company, Vol. VI, Allbutt's System of Medicine, Alfred Williams, office supplies.....	6.00 3.85
		The Survey, 1 year's subscription.....	2.00
	6.	Capital Furniture Company, sectional bookcase.....	15.50
	8.	Capital City Telephone Company, rent No. 164, December...	3.50
	9.	J. D. Riggan Company, fire set for office.....	.80
	10.	Miss Annie Duncan, clerical services.....	7.12
	13.	Miss Mabel Massey, stenographer, December salary.....	55.00
		Dr. W. S. Rankin, Secretary, traveling expenses November..	57.70
		Dr. W. S. Rankin, salary as Secretary, November.....	250.00
		Dr. W. S. Rankin, to amount of attached vouchers.....	1.00
		L. L. Dail, 25 hours' clerical work.....	5.00
	16.	One dozen reports on National Vitality.....	6.00
	17.	Postal Telegraph Company, November messages.....	.50
	21.	Joseph B. Cheshire, Jr., compiling health laws.....	80.00
	22.	Stamps	10.00
	24.	Dr. C. A. Julian, 6 months' salary as Assistant Secretary, Tuberculosis	300.00
		Dr. C. A. Julian, expenses to Montrose and Raleigh.....	12.50
	31.	Lewis, Battle & Tucker, office rent, fourth quarter.....	60.00
1910.			
Jan.	3.	Southern Express Company, December account.....	1.25
		W. S. Rankin, 1-cent stamps.....	5.00
		Mrs. W. J. Crews, mailing November Bulletin.....	7.50
	5.	W. S. Rankin, December salary.....	250.00
		W. S. Rankin, December traveling expenses.....	21.77
		W. S. Rankin, attached vouchers.....	1.00
	6.	Jos. C. Ellington, laundry bag.....	.50
		Johnson & Johnson, wood.....	1.25
		Western Union Telegraph Company, November and Decem- ber telegrams	7.36
	10.	Powell & Powell, coal and wood.....	7.75
	12.	W. S. Rankin, 2-cent stamps.....	10.00
	14.	Dr. J. Howell Way, per diem and expenses inspection Ep- worth Institute, Brevard.....	15.60
	15.	Dr. C. A. Julian, freight on consumption literature.....	9.20
	22.	Capital City Telephone Company, rent No. 164, January....	3.50
	25.	Dr. Joshua Tayloe, smallpox investigation at Wilson.....	25.00
	26.	Stamps	10.00
	29.	Miss Mary G. Davis, 1 month's work as substitute.....	30.00
	31.	Miss Annie B. Duncan, clerical services, 8 days.....	16.00
Feb.	1.	Powell & Powell, wood and coal.....	7.75
	2.	Southern Express Company, January account.....	6.75
		Mrs. W. J. Crews, mailing December Bulletin.....	7.50
		Miss Mabel Massey, stenographer, January salary.....	75.00
	3.	Postal Telegraph Cable Company, January account.....	.50
		Johnson & Johnson, 1 ton coal.....	6.50
	5.	W. S. Rankin, Secretary and Treasurer, January salary....	250.00
		W. S. Rankin, Secretary, traveling expenses for January....	32.75
		W. S. Rankin, Secretary, cash items, January.....	3.36

Feb.	5.	Baptist Bookstore, January account.....	\$0.80
	7.	Thos. H. Briggs & Sons, January account.....	.40
	9.	News and Observer Publishing Company, 1 copy Yearbook, 1910	2.00
		Stamps	10.00
	10.	Alfred Williams & Co., letter file, etc.....	41.65
		E. M. Uzzell & Co., 200 postal cards.....	2.00
	12.	W. G. Briggs, Postmaster, deposit on postage on Bulletin... Capital City Telephone Company, rent No. 164 and long dis- tance	10.00 4.10
		Hart-Ward Hardware Company, fenders and floor wax.....	3.70
		Science Press, 1 year's subscription, 1910, and 1 extra copy..	5.15
		L. L. Dail, clipping newspapers.....	5.00
	21.	Pierre M. Foltz, lantern slides.....	48.67
	24.	Stamps	10.00
	26.	Miss Annie B. Duncan, clerical services, February.....	19.55
Mar.	2.	Miss Mabel Massey, stenographer, February salary.....	75.00
		Plummer's Stables, to transfer baggage and lantern.....	2.65
		Powell & Powell, 1 ton coal.....	6.50
		Western Union Telegraph Company, February statement... Williams, Brown & Earle, lantern and accessories.....	1.87 263.50
	7.	Alfred Williams & Co., office supplies.....	5.20
		Southern Express Company, February statement.....	3.75
		Capital City Telephone Company, February statement, rent No. 164	4.45
		Arthur H. Thomas Company, Mithof's Hygrometer.....	2.28
	9.	Mrs. W. J. Crews, mailing January Bulletin.....	7.50
	11.	Dr. H. D. Turner, article on contagious diseases.....	25.00
		W. S. Rankin, February salary.....	250.00
		W. S. Rankin, traveling expenses February.....	22.65
		W. S. Rankin, cash items as per attached vouchers.....	1.36
	14.	L. L. Dail, checking death certificates, clipping newspapers..	5.00
	15.	Stamps	10.00
		Thos. H. Briggs & Sons, sundries for lantern.....	.70
		Miss Lucy Davis, 8 hours copying.....	1.00
	22.	Stamps	10.00
	25.	Baptist Bookstore, office supplies.....	1.70
	26.	Mrs. W. J. Crews, February Bulletins.....	7.50
Apr.	1.	American District Telegraph Company, 3 messages.....	.75
		Miss Elizabeth Montgomery, two-thirds' month salary (March), assistant stenographer.....	20.00
		Miss Mabel Massey, March salary.....	75.00
	2.	W. S. Rankin, Secretary and Treasurer, March salary.....	250.00
		W. S. Rankin, Secretary and Treasurer, traveling expenses in March	23.75
		W. S. Rankin, Secretary and Treasurer, to amount of at- tached vouchers	2.83
		Powell & Powell, wood and coal.....	7.75
		Plummer's Stables, moving safe.....	1.50
		Southern Express Company, March account.....	3.35
		Western Union Telegraph Company, March account.....	4.86

Apr.	4.	Stamps	\$10.00
		Mrs. W. J. Crews, revising mailing list.	40.00
	8.	Postal cards	5.00
	11.	Mr. L. L. Dail, clipping death certificates from newspapers. .	5.00
	16.	Stamps	10.00
		Miss Margaret Susan Marshall, mailing Bulletin.	1.50
		Miss Margaret Habel, mailing Bulletin.	1.75
		Miss Tula Yarborough, mailing Bulletin.	2.25
		Miss Beatrice Cree, mailing Bulletin.	2.25
		Miss Annie Asbury, mailing Bulletin.	2.25
		Miss Bessie Fennell, mailing Bulletin.	2.25
	23.	T. F. Brockwell, repairing mailing machines.50
	27.	Stamps	10.00
		Deposit for postage on Bulletin.	20.00
	20.	Miss Sarah F. Cheshire, mailing Bulletin.	2.00
		Miss Elizabeth Montgomery, stenographer, April salary. . . .	30.00
		Williams, Brown & Earle, saturator for stereopticon.	13.00
	30.	Lea & Febiger, Osler's Modern Medicine, Vol. 7.	6.00
		Alfred Williams & Co., March account.	23.85
		Capital City Telephone Company, rent No. 164, long distance messages	6.65
		Houghton, Mifflin Company, "Conquest of Consumption," "Preventable Diseases"	2.71
		Arthur H. Thomas Company, Walpert's air tester.	2.70
May	4.	Stamps	10.00
	5.	Plummer's Stables, to May 1, 1910.	5.00
		Miss Mabel Massey, stenographer, April salary.	75.00
	6.	Southern Express Company, April account.	6.07
	7.	Baptist Bookstore, office supplies.	1.95
	9.	Alfred Williams, office supplies.	3.75
		W. S. Rankin, April salary.	250.00
		W. S. Rankin, traveling expenses, April.	66.65
		W. S. Rankin, cash items, as per attached vouchers.	2.10
	10.	Frank K. Thompson, drawings, sanitary privy.	10.00
	12.	Royall & Borden Furniture Company, filing cabinet.	2.50
		L. L. Dail, checking deaths reported in newspapers, April. .	5.00
	13.	T. E. Green, typewriter stand, notebook holder, platen, etc. .	12.00
	14.	Dr. C. A. Julian, Assistant Secretary Tuberculosis, 3 months' salary	150.00
	24.	Capital City Telephone Company, to July 1, 1911, and April long distance messages.	78.97
		Doubleday, Page & Co., 1 photograph, fly on sponge cake. . . .	3.00
	27.	Carolina Electrical Company, connecting stereopticon at Meredith College and St. Augustine.	5.25
	31.	Arthur H. Thomas Company, Walpert's air tester.	21.70
		Remington Typewriter Company, one typewriter.	90.00
		L. L. Dail, checking deaths reported in Newspapers, May. . .	5.00
June	1.	Miss Elizabeth Montgomery, Assistant, May salary.	30.00
		Mabel Massey, clerk, May salary.	75.00
		Southern Express Company, May account.	2.95
	2.	Stamps	10.00

June	4.	Plummer's Stables, moving stereopticon	\$1.50
	6.	Western Union Telegraph Company, April account.....	2.43
	7.	W. S. Rankin, Secretary and Treasurer, May salary.....	250.00
		W. S. Rankin, Secretary and Treasurer, traveling expenses, May	8.40
	10.	Stamps	5.00
	27.	Hart-Ward Hardware Company, April account.....	1.75
	28.	Dr. R. H. Lewis, expenses meeting State and Provincial Boards of Health of North America.....	20.90
		Southern Bell Telephone and Telegraph Company, to May 31st	3.05
		H. M. Bracken, Secretary and Treasurer State and Provin- cial Boards of Health, annual dues.....	15.00
	31.	Thos. H. Briggs & Sons, May statement.....	1.60
		Alfred Williams & Co., office supplies to June 1st.....	2.05
		Arthur H. Thomas Company, to June 4th.....	1.65
		Carolina Electric Company, to May 13th.....	1.55
		Miss Annie B. Duncan, clerical services.....	18.40
		Charities Publishing Committee, 1 copy "Med. Ins. of Schools"	1.00
		E. P. Dutton & Co., 1 copy "Mosquito or Man".....	3.70
		Miss Mary G. Davis, clerical services.....	6.75
		Stamps	20.00
		Miss Annie Root, 1 day's clerical services.....	1.00
		Miss Anna Daly Burton, 1 day's clerical services.....	1.00
		Miss Margaret Trapier, 1 day's clerical services.....	1.00
July	1.	Elizabeth Montgomery, June salary.....	30.00
	1.	Miss Mabel Massey, June salary.....	75.00
		Miss Lucy Davis, 2 days' clerical services.....	2.00
	2.	Chas. E. Pless Company, Inc., bought by Col. J. L. Ludlow, cabinets, guides and cut folders.....	23.00
		Dobbin-Ferrall Company, two window awnings.....	10.00
		Ernest R. Carroll, multigraph letters.....	5.45
		Plummer's Stables for dray, June 8-10.....	.50
		Southern Express Company, June account.....	4.19
		W. S. Rankin, June salary.....	250.00
		W. S. Rankin, traveling expenses for June.....	67.25
	5.	Dr. C. A. Julian.....	150.00
	6.	Stamps	10.00
	7.	Western Union Telegraph Company, bill to June 30, 1910...	3.91
	13.	Alfred Williams Company, invoice, July 1st.....	5.80
		Dr. G. G. Thomas, per diem and expenses annual meeting...	21.10
		Dr. J. Howell Way, per diem and expenses annual meeting...	44.25
		Dr. Edward C. Register, per diem and expenses annual meet- ing	27.80
		Dr. T. E. Anderson, per diem and expenses annual meeting..	42.23
		Col. J. L. Ludlow, per diem and expenses annual meeting...	34.50
	14.	Stamps	5.00
	21.	Stamps	5.00
	22.	E. M. Uzzell & Co., stamps for May Bulletin.....	3.00
	26.	Antique Furniture Company, invoice July 24th.....	30.66

July 27.	C. C. Vines, proprietor, one-half day's board, Hotel Bertha..	\$1.00
	Lewis, Battle & Tucker, rent, one-half 1910.....	120.00
	Stamps	10.00
29.	Stamps	10.00
30.	Miss Elizabeth Montgomery, July salary.....	30.00
	Mabel Massey, July salary.....	75.00
Aug. 1.	Baptist Bookstore, May, June and July.....	11.95
	W. S. Rankin, Secretary and Treasurer, July salary.....	250.00
	W. S. Rankin, traveling expenses July.....	46.90
	W. S. Rankin, cash items, as per vouchers, July.....	2.85
	Royall & Borden Furniture Company, invoice, August 1st..	13.75
	T. E. Green, typewriter ribbons.....	3.00
	Southern Express Company, July account.....	45.73
2.	W. G. Briggs, Postmaster, balance due account second-class matter	40.72
	J. D. Riggan, waste paper basket.....	.90
4.	E. M. Uzzell & Co., stamps for Bulletin.....	2.55
5.	Stamps	10.00
	Western Union Telegraph Company, July statement.....	4.12
	Southern Bell Telephone and Telegraph Company, long dis- tances	1.00
	Antique Furniture Company, bookcase.....	10.00
	W. G. Briggs, Postmaster, deposit postage on bulletins.....	20.00
	Carolina Electric Company, lamp shade.....	1.25
	Alfred Williams & Co., invoice, August 1st.....	3.35
6.	Citizens National Bank, 30 days' discount on appropriation,	5.00
11.	Stamps	5.00
19.	C. V. Mosby Medical Book and Publishing Company, Dock & Bass, "Hookworm Disease".....	2.00
	Col. J. L. Ludlow, per diem and expenses meeting of Execu- tive Committee	15.81
	D. Van Nostrand Company, Lancaster, "Kingdom of Man"..	1.40
	Longmans, Green & Co.....	1.50
	The Macmillan Company, Allbutt's & R., Vol. 1.....	6.00
23.	Stamps	15.00
	The Survey, "Hygiene and Morality".....	1.50
24.	P. Blakeston's Son & Co., electrotypes.....	2.10
25.	W. S. Rankin, Secretary and Treasurer, mileage book.....	20.00
29.	Dr. G. G. Thomas, per diem and expenses meeting of Execu- tive Committee	4.00
	Dr. R. H. Lewis, per diem and expenses meeting of Execu- tive Committee	4.00
Sept. 1.	E. M. Uzzell & Co., mailing April, May, June and July Bul- letins	62.20
	Mabel Massey, stenographer, August salary.....	75.00
	Miss Elizabeth Montgomery, stenographer.....	30.00
	Miss Isabelle Haynes, one-half month's stenographic work..	15.00
	Dr. W. S. Rankin, Secretary and Treasurer, August salary..	250.00
	Dr. W. S. Rankin, traveling expenses, August.....	3.75
	Dr. W. S. Rankin, traveling expenses, Asheville and return. in interest of State Sanatorium.....	38.60
	Dr. W. S. Rankin, to Montrose and return, June 20th.....	4.00

Sept.	1.	Southern Express Company, invoice, August 31.....	\$27.23
		W. G. Briggs, Postmaster, deposit for postage on Bulletin..	40.00
	2.	Western Union Telegraph Company, invoice to August 31st,	2.53
	3.	Stamps	5.00
		Gatchel & Manning, plates for Bulletin.....	1.55
	7.	Postal cards	3.00
	9.	Dr. W. O. Spencer, per diem and expenses annual meeting Board	34.45
	16.	Stamps	5.00
	17.	Postal cards	3.00
	19.	Stamps	5.00
	20.	W. S. Rankin, expenses, annual meeting A. P. H. A. and trip to Spray.....	102.20
	21.	E. L. Fesperman, newspaper clippings.....	10.00
	26.	E. M. Uzzell & Co., postage on Bulletins.....	1.08
		W. S. Rankin, mileage book.....	20.00
	30.	Miss Elizabeth Montgomery, September salary.....	35.00
	8.	Hotel Pfeister, Milwaukee, Wis.....	20.00
Oct.	1.	E. L. Fesperman, newspaper clippings.....	10.00
		W. S. Rankin, traveling expenses, September.....	3.70
		W. S. Rankin, September salary.....	250.00
		Miss Mabel Massey, September salary.....	75.00
	8.	Stamps	10.00
	10.	Postage on Bulletin.....	25.00
		Lea & Ferbiger, subscription American Journal Medical Science	5.00
		W. S. Rankin, desk.....	25.00
	12.	Western Union Telegraph Company, September account....	1.86
		Southern Telegraph Company, long distance messages, July, August and September.....	3.20
		John Wiley & Sons, Hazen's "Clean Water".....	1.32
		American District Telegraph Company, messages.....	.35
		Alfred Williams & Co., office supplies.....	1.95
	13.	Southern Express Company, September account.....	8.52
	17.	Reuben L. Breed, crating and shipping tuberculosis exhibi- tion	5.00
	19.	A. L. Smith, 4 days' clerical services.....	5.35
		E. M. Uzzell & Co., postage for Bulletin.....	2.08
	22.	Reuben L. Breed, tuberculosis exhibition.....	30.50
Nov.		Brandon Bruner, attendance on exhibition at Fair.....	4.75
	27.	Stamps	10.00
		W. R. Macy, signs for exhibition at Fair.....	6.85
	28.	Sherwood Brockwell, repairing typewriters.....	3.25
	1.	W. S. Rankin, October salary.....	250.00
		W. S. Rankin, traveling expenses, October.....	16.95
		W. S. Rankin, amount attached receipts.....	2.00
		Mabel Massey, October salary.....	75.00
		Lina Lee Kennedy, 14 days' stenographic services.....	11.75
		W. G. Briggs, Postmaster, postage on Bulletin.....	22.09
		Frank W. Wright, A. P. H. A., annual dues.....	5.00
		Harden & Holder, invoice, November 1st.....	5.75
		Powell & Powell, one fourth cord wood.....	1.25

Nov.	2.	Plummer's Stables, invoice, October, 30th.....	\$3.25
	3.	Southern Express Company, invoice, October 31st.....	22.18
	4.	Baptist Bookstore, invoice, November 1st.....	1.40
		Western Union Telegraph Company, invoice, October, 1910..	2.93
		Sylvester Dunston, set grate in office.....	5.25
	8.	Stewart's Printing House, printing for Colonel Ludlow.....	3.50
	9.	Alfred Williams & Co., invoice, November 1st.....	3.20
		Thos. H. Briggs & Sons, invoice, October 31st.....	1.00
	11.	Bearer, stamps	10.00
		L. W. Luellen, drinking cups.....	5.00
	18.	E. H. Sargent & Co., 1 hygrometer.....	10.00
		Brandon Bruner, service rendered Board of Health.....	5.00
	29.	Bearer, stamps	5.00
Dec.	1.	W. S. Rankin, cash items, November.....	21.75
	2.	Miss Lina Lee Kennedy, November salary.....	27.50
		Mabel Massey, November salary.....	75.00
		Dr. W. S. Rankin, November salary.....	250.00
		Dr. W. S. Rankin, traveling expenses, November.....	13.30
		Dr. W. S. Rankin, mileage book.....	20.00
	3.	Lewis, Battle & Tucker, one-half rent 1910-January 1, 1911,	120.00
		Dr. R. H. Lewis, expenses meeting A. P. H. A., Milwaukee..	90.00
		Southern Express Company, November account.....	15.67
	6.	Stamps	5.00
		Raleigh Furniture Company, invoice, 1st inst.....	13.50
	7.	Miss C. Fenner, drawing for Board of Health.....	15.00
	8.	Stamps	2.00
		E. L. Fesperman, newspaper clippings.....	20.00
		The Survey, November 10th-November 11th.....	2.00
		Western Union Telegraph Company, to November 30th.....	2.88
		Alfred Williams & Co., to November 28th.....	5.20
		The Macmillan Company, Allbutt's, Vol. 8.....	6.00
		Southern Bell Telephone and Telegraph Company, to Novem-	
		ber 30th	1.60
	10.	Office Stationery Company, file and cards.....	3.00
	13.	J. E. Mitchell, work on door in office.....	1.15
	14.	Thos. A. Storey, Secretary and Treasurer American School	
		Hygiene Association, annual dues.....	3.00
	15.	Hart-Ward Hardware Company, invoice, November 30th....	3.75
	16.	Miss L. L. Kennedy, 18 days' service (stenographic).....	16.75
		J. H. Mitchell, Passenger Agent, mileage book.....	20.00
	22.	W. S. Rankin, for stamps.....	10.00
	23.	Dr. G. G. Thomas, for expense incurred in inspection at Mor-	
		ganton	8.00
		Dr. Richard H. Lewis, for expense incurred in inspection at	
		Morganton	21.60
Disbursements			12,501.45
Overdraft, January 1, 1909.....			34.68
Balance on hand December 31, 1910.....			223.27
Receipts			12,759.40
			<hr/>
9		\$12,759.40	\$12,759.40

Report of Treasurer

W. S. Rankin, Treasurer, in account with the State Laboratory of Hygiene, January 1, 1909-December 31, 1910.

1909.

Jan.	2.	Henry T. Hicks, mineral waters.....	\$2.75
		Grand Lodge, A. F. and A. M., two stoves.....	10.00
	21.	Dr. C. A. Shore, Director, sundries, as per vouchers attached,	12.53
		W. H. King Drug Company, chemicals.....	6.16
		Standard Gas and Electric Company.....	6.13
		Raleigh Electric Company, lights in December.....	2.85
		Eimer & Amend, apparatus.....	45.60
		Landquest & Spaugh, mineral waters.....	4.85
		G. E. Stechert & Co., Archives fur Hygiene, Vol. 68.....	3.75
		Hawley's Pharmacy, mineral waters.....	3.95
		Johnson & Johnson, ice.....	1.00
	30.	Miss Daisy B. Allen, Chemist, January salary.....	75.00
		J. W. Kellogg, Assistant Biologist, salary, December 28th- January 31st	110.00
		Miss Mabel P. Massey, stenographer, January salary.....	15.00
		Fred Morgan, janitor, January wages.....	15.00
		Farmer-Cole Plumbing Company, plumbing necessary in changing Laboratory	74.25
Feb.	3.	Dr. C. A. Shore, Director, sundries, as per vouchers at- tached	28.37
		Dr. C. A. Shore, Director, January salary.....	166.67
		J. E. Mitchell, carpenter, work in Laboratory.....	4.00
	5.	Postal Cable Telegraph Company, telegrams in January....	3.36
	6.	Johnson & Johnson, ice.....	1.00
		Standard Gas and Electric Company, gas in January.....	5.88
		Carolina Power and Light Company, lights in January....	1.00
		Powell & Powell, wood and coal.....	10.25
		Alfred Williams & Co., office supplies.....	2.40
	10.	Standard Gas and Electric Company, new fittings for Lab- oratory	59.20
		Carolina Electric Company, wiring Laboratory.....	78.41
	12.	G. E. Stechert & Co., British Journal of Tuberculosis, Jour- nal of Hygiene and Archives fur Hygiene, Vol. 69.....	10.50
		Thos. H. Briggs & Sons, sundries for Laboratory, as per voucher attached	16.52
		J. M. Broughton & Co., rent of Laboratory, January.....	20.00
	20.	Capital City Telephone Company, rent of No. 385, February and March, and long distance messages.....	7.60
	24.	William G. Hill Lodge, 2 stoves and matting.....	10.00
	27.	J. W. Kellogg, Assistant Biologist, February salary.....	100.00
		Miss Daisy B. Allen, Chemist, February salary.....	75.00
		Dr. C. A. Shore, Director, February salary.....	166.67
		Dr. C. A. Shore, Director, amount of attached vouchers....	4.15
		Miss Mabel P. Massey, stenographer, February salary.....	15.00
		Fred Morgan, janitor, February wages.....	15.00
		J. M. Broughton & Co., rent for February.....	20.00

Mar.	1.	Southern Express Company, express in December, January and February	\$57.70
	4.	Carolina Electric Company, installing lights.....	2.00
	16.	Young & Hughes, 1 slate slab.....	2.50
		Johnson & Johnson, ice.....	2.00
		Standard Gas and Electric Company, gas fittings.....	3.15
		Powell & Powell, 1 ton coal.....	9.20
		Standard Gas and Electric Company, gas in February.....	7.63
		Journal of Infectious Diseases.....	5.00
		Union Paper Company, mailing cases.....	28.18
		Dobbin-Ferrall Company, repairing linoleum, sheets, etc....	5.60
		Alfred Williams & Co., office supplies.....	1.60
	24.	Woodall's Stables, 6 van loads, moving Laboratory.....	10.00
	25.	Arthur H. Thomas Company, apparatus.....	71.33
		John W. Coffey Company, work in fitting up Laboratory...	57.55
		Dr. C. A. Shore, Director, March salary.....	166.67
		J. W. Kellogg, Assistant Biologist, March salary.....	100.00
		Miss Daisy B. Allen, Chemist, March salary.....	75.00
		Miss Mabel P. Massey, stenographer, March salary.....	15.00
		Fred. Morgan, janitor, March wages.....	15.00
		Dr. C. A. Shore, Director, sundries, as per vouchers attached	14.01
Apr.	1.	Southern Express Company, expressage in March.....	18.85
		J. M. Broughton & Co., rent for March.....	20.00
	2.	Postal Telegraph Cable Company, telegrams in March.....	2.25
	6.	Raleigh Insurance and Realty Company, premium on policy No. 2946650, Laboratory and office fittings and furniture,	12.00
	10.	Powell & Powell, wood and coal.....	10.75
		Carolina Power and Light Company, lights in March.....	2.28
		Standard Gas and Electric Company, gas in March.....	9.63
		Carolina Furniture Company, furniture for waiting room...	29.60
		Dobbin-Ferrall Company, linoleum for Laboratory.....	108.28
	15.	Carolina Power and Light Company, lights in February....	3.00
		Johnson & Johnson, ice.....	1.00
		Capital City Telephone Company, rent of No. 358, March and April	7.00
	26.	Eimer & Amend, apparatus and chemicals.....	118.86
		Journal of Experimental Medicine, Vol. 11.....	5.00
	30.	Dr. C. A. Shore, Director, April salary.....	166.66
		Dr. C. A. Shore, Director, sundries, as per vouchers attached	8.24
		Miss Daisy B. Allen, Chemist, April salary.....	75.00
		J. W. Kellogg, Assistant Biologist, April salary.....	100.00
		Miss Mabel P. Massey, stenographer, April salary.....	15.00
		Fred. Morgan, janitor, April wages.....	15.00
		Mrs. F. A. Woodard, rent of Laboratory, April.....	20.00
May	1.	Southern Express Company, expressage in April.....	20.30
	10.	Carolina Power and Light Company, April lights.....	1.76
	11.	Dobbin-Ferrall Company, linoleum and carpet.....	74.94
		Eimer & Amend, burette and pipette.....	2.00
		Standard Gas and Electric Company, gas in April.....	9.75

May	11.	Whitall Tatum Company, bottles.....	\$13.66
		Johnson & Johnson, ice.....	2.00
		Arthur H. Thomas, chemicals and apparatus.....	4.56
		Royall & Borden Furniture Company, revolving stools.....	5.25
		Thos. H. Briggs & Sons, sundries for Laboratory, as per voucher attached	5.55
	31.	Dr. C. A. Shore, Director, May salary.....	166.67
		J. W. Kellogg, Assistant Biologist, May salary.....	100.00
		Miss Daisy B. Allen, chemist, May salary.....	75.00
		Miss Mabel P. Massey, stenographer, May salary.....	15.00
		Fred. Morgan, janitor, May wages.....	15.00
		Dr. C. A. Shore, Director, sundries, as per vouchers at- tached	22.56
		Mrs. F. A. Woodard, rent for May.....	20.00
June	7.	Southern Express Company, May account.....	16.90
	8.	Hart-Ward Hardware Company, garbage can and work on sterilizer	7.50
		Cincinnati Bottlers Supply Company, 1 roll gummed tape..	2.50
		Standard Gas and Electric Company, May account.....	9.37
		Carolina Power and Light Company, May lights.....	2.28
	9.	Johnson & Johnson, May account, ice.....	2.00
	23.	Dr. C. A. Shore, Director, stamped envelopes.....	50.00
	26.	Thos. H. Briggs & Sons, 1 set scales, knife.....	22.50
		Alfred Williams & Co., office supplies.....	1.30
		North Wheeling Glass Company, 50 cartons.....	5.50
		Capital City Telephone Company, rent of No. 358, and long distance messages, June and July.....	10.15
	30.	Dr. C. A. Shore, Director, June salary.....	166.67
		J. W. Kellogg, Assistant Biologist, June salary.....	100.00
		Miss Daisy B. Allen, chemist, June salary.....	75.00
		Miss Mabel P. Massey, stenographer, June salary.....	15.00
		Fred. Morgan, janitor, June wages.....	15.00
		Mrs. F. A. Woodard, June rent.....	20.00
		Lester Adams, Assistant, June salary.....	60.00
		Dr. C. A. Shore, sundries, as per voucher attached.....	7.24
	30.	Bessie Mordecai, chore woman, June wages.....	4.00
July	3.	Southern Express Company, June account.....	22.90
		Carolina Electric Company, in full of account to June 27th,	1.60
		Carolina Light and Power Company, June light account....	3.15
		Standard Gas and Electric Company, in full of account to June 23d	9.88
		Capital Furniture Company, furniture for waiting room...	6.53
		Johnson & Johnson, ice.....	3.00
		Postal Telegraph Cable Company, June messages.....	3.38
		Dr. C. A. Shore, check to cover draft N. Wheeling Glass Company, 50 cartons.....	5.50
	14.	Baptist Bookstore, carbon paper.....	2.50
		Eimer & Amend, Laboratory supplies.....	43.17
		King-Crowell Drug Company, mineral waters.....	3.45
	21.	Stamps	50.00
	22.	J. E. Mitchell, tube case.....	1.50

July 22.	Heller Bros., 1 suit case (collecting case).....	\$9.00
	Alfred Williams & Co., 200 folders for filing cabinet.....	1.00
27.	Dr. C. A. Shore, cash items as per vouchers attached.....	28.36
30.	W. L. Grimes, Assistant, July salary.....	60.00
	F. S. Lancaster, staining bookcases in office (drawn from wrong account, replaced by Board of Health check).....	2.00
31.	Mrs. Laura G. Daniels, copying reports.....	5.00
	Miss Mabel Massey, stenographer, July salary.....	20.00
	Dr. C. A. Shore, Director, July salary.....	208.33
	W. J. Kellogg, Assistant, salary, July 1st-29th.....	93.55
	Miss Daisy B. Allen, chemist, July salary.....	90.00
	Lester Adams, Assistant, July salary.....	60.00
	Fred. Morgan, janitor, July wages.....	15.00
	Bessie Mordecai, cleaning Laboratory in July.....	4.00
Aug. 2.	Southern Express Company, July statement.....	25.85
3.	Tucker Building Pharmacy, mineral waters.....	1.75
	Stamped envelopes	10.00
4.	W. S. Rankin, Secretary and Treasurer, sundries, as per vouchers attached	1.50
5.	Mrs. F. A. Woodard, July rent.....	20.00
	Henry T. Hicks Company, mineral waters.....	1.45
	T. E. Green, 2 typewriter ribbons.....	1.50
	Raleigh Furniture Company, 1 office chair.....	6.25
	Hart-Ward Hardware Company, sundries.....	3.25
6.	Standard Gas and Electric Company, gas in July.....	8.65
	North Carolina Experiment Station, guinea pigs.....	5.10
	Carolina Power and Light Company.....	3.15
	W. B. Mann, matches and oil.....	1.08
	Landquist & Spaugh, mineral waters.....	3.10
	Johnson & Johnson, ice.....	3.00
13.	Rockbridge Alum Springs Company, first quarter license tax remitted	4.75
	Colborn, Morgan & Co., first quarter license tax remitted...	5.00
	W. G. Taylor, president Fonticello Springs Company, first quarter license tax remitted.....	10.00
	Harris Lithia Springs Company, first quarter license tax remitted	16.00
	Hiram Ricker & Sons, Poland Springs, first quarter's license tax remitted	4.25
	Dobbin-Ferrall Company, work on old carpet.....	1.00
	Alfred Williams & Co., office supplies.....	2.00
18.	Arthur H. Thomas & Co., 12 Royal Berlin casseroles.....	6.30
27.	N. J. Norden, 3 table frames.....	8.50
31.	Dr. C. A. Shore, Director, August salary.....	208.33
	Dr. C. A. Shore, Director, amount of attached receipts.....	18.02
	Miss Daisy B. Allen, chemist, August salary.....	90.00
	Mr. J. W. Kellogg, Assistant, August salary.....	125.00
	Mr. S. T. Nicholson, Assistant, August salary.....	60.00
	Fred. Morgan, janitor, August wages.....	15.00
	Mrs. F. A. Woodard, August rent.....	20.00
	Annie Holloway, 30 hours' work.....	3.00

Aug. 31.	Dawson & Sutton, first quarter's tax remitted (Seven Springs)	\$3.75
Sept. 1.	Royall & Borden, 1 typewriter desk.	12.50
2.	Johnson & Johnson, ice.	3.00
	Southern Express Company, August account.	31.40
3.	Dobbin-Ferrall Company, cotton batting.	1.08
4.	J. N. Norden, table frames.	5.00
7.	Young & Hughes, three table slabs.	6.00
9.	Eimer & Amend, Laboratory supplies.	73.58
	Standard Gas and Electric Company, August account.	9.75
	J. G. Ball Company, 1 box Ivory soap.	6.75
	Carolina Power and Light Company, August account, lights,	3.15
	Acme Drug Company, August account.	5.80
	Arthur H. Thomas Company, Laboratory supplies.	88.43
11.	S. T. Nicholson, Jr., salary, September 1st to 11th.	20.00
13.	Western Union Telegraph Company, August account.	2.07
	Baptist Bookstore, carbon paper.	2.20
28.	Capital City Telephone Company, rent for No. 358, and long distance messages	11.55
	Miss Annie Duncan, 11 hours' copying.	2.75
30.	Dr. C. A. Shore, Director, September salary.	208.33
	Dr. C. A. Shore, Director, amount of attached vouchers.	15.98
	Miss Daisy B. Allen, chemist, September salary.	90.00
	J. W. Kellogg, Assistant, September salary.	125.00
	C. F. Kirkpatrick, Assistant, September salary.	60.00
	Miss Mabel Massey, stenographer, August and September salary	40.00
	Fred. Morgan, janitor, September wages.	15.00
	Annie Holloway, September wages, 42 hours' work.	4.20
	Alfred Williams & Co., office supplies.75
Oct. 1.	Johnson & Johnson, ice.	3.00
2.	Southern Express Company, September account.	27.10
4.	W. H. King Drug Company, in full of account to September 1st	39.07
	Millbrook Distilling Company Branch, 1 barrel alcohol.	27.89
	Carolina Power and Light Company, lights.	4.65
	Postal Telegraph Cable Company, September account.	2.66
	Standard Gas and Electric Company, September account.	10.50
14.	Arthur H. Thomas Company, Laboratory supplies.	214.93
19.	Dr. C. A. Shore, Director, October salary.	208.34
30.	Dr. C. A. Shore, Director, amount of vouchers attached.	28.89
	Annual dues American Public Health Association (Dr. Shore, Director)	5.00
	Miss Daisy B. Allen, Chemist, October salary.	90.00
	J. W. Kellogg, Assistant, October salary.	125.00
	C. F. Kirkpatrick, Assistant, October salary.	60.00
	Miss Mabel Massey, stenographer, October salary.	20.00
	Fred. Morgan, janitor, October wages.	15.00
	Miss Annie Duncan, five hours' clerical services.	1.25
	Annie Holloway, 36 hours' work.	3.60
	Alfred Williams & Co., office supplies.	11.65

Nov.	1.	Southern Express Company, October expressage.....	\$29.63
	3.	Johnson & Johnson Company, ice.....	2.00
	6.	Hart-Ward Hardware Company, stovepipes and putting up same	3.10
	8.	Busbee & Busbee, one-half premium on bond Treasurer.....	10.00
	12.	Cincinnati Bottlers' Supply Company, 2 rolls gummed cloth tape	5.00
		W. B. Mann & Co., 1 gross matches.....	1.00
		Ernest Leitz, microscope supplies.....	11.80
		Farmer-Cole Plumbing Company, work in Laboratory.....	13.15
		Aeme Drug Company, October statement.....	1.45
		Standard Gas and Electric Company, October statement...	13.25
		Carolina Power and Light Company, October statement, lights	3.45
		Postal Telegraph Cable Company, October statement.....	3.69
	16.	Mrs. F. A. Woodard, September and October rent.....	40.00
	30.	Miss Daisy B. Allen, Chemist, November salary.....	90.00
		C. F. Kirkpatrick, Assistant, November salary.....	60.00
		J. W. Kellogg, Assistant, November salary.....	125.00
		Lorena Holloway, 39 hours' labor.....	3.90
		Fred. Morgan, janitor, November wages.....	15.00
Dec.	1.	Miss Mabel Massey, stenographer, November salary.....	20.00
	3.	Dr. C. A. Shore, Director, November salary.....	208.33
		Dr. C. A. Shore, Director, amount of attached vouchers....	25.79
	4.	Sherwood Brockwell, cleaning and repairing typewriter.....	3.00
	7.	Southern Express Company, November account.....	22.70
		Eimer & Amend, Laboratory supplies.....	1.87
		John W. Coffey, repairs in Laboratory.....	7.68
		Sherwood Brockwell, to repairing typewriter.....	.75
	8.	Johnson & Johnson Company, ice.....	3.00
		Carolina Power and Light Company, November account....	3.42
		Standard Gas and Electric Company, November account...	12.00
		Postal Telegraph Cable Company, November account.....	4.97
	9.	Baptist Bookstore, carbon paper.....	2.60
	11.	F. M. Kirby & Co., sundries for Laboratory.....	5.85
	13.	Mrs. F. A. Woodard, November rent.....	20.00
		Miss Mabel Massey, stenographer, December salary.....	20.00
	15.	G. L. Vinson Company, repairing plumbing.....	55.33
	16.	Thos. H. Briggs & Sons, Raleigh, N. C.....	2.65
	18.	Refund for notes, analysis not made.....	5.00
	20.	G. E. Stechert & Co., Archives fur Hygiene, Vols. 70 and 71, Carolina Woodworkers Company, 2 tables made to order...	7.50
		J. Schwartz, for beef gall.....	9.00
		Cincinnati Bottlers' Supply Company, for bottles.....	10.00
		Cincinnati Bottlers' Supply Company, for bottles.....	24.67
	22.	J. E. Mitchell, repairs and improvements.....	2.00
	31.	Miss Daisy Allen, December salary.....	90.00
		C. F. Kirkpatrick, December salary.....	60.00
		Miss Ethel Waitt, December salary.....	20.00
		Fred. Morgan, janitor, December wages.....	15.00
		Annie Holloway, 42 hours' labor.....	4.20
		J. W. Kellogg, December salary.....	125.00

Dec. 31.	C. A. Shore, December salary.....	\$208.33
	C. A. Shore, for receipted bill.....	25.86
1910.		
Jan. 3.	Southern Express Company, December account.....	25.15
6.	Thos. H. Briggs & Sons, hardware supplies.....	50.50
	Standard Gas and Electric Company, fuel.....	12.00
	G. L. Vinson Company, plumbing.....	2.11
	Johnson & Johnson	1.00
	Powell & Powell, coal and wood.....	12.25
	W. H. King Drug Company, drugs and supplies.....	3.90
	Acme Drug Company, supplies.....	5.11
	Dobbin & Ferrall Company, linoleum.....	14.34
	Postal Telegraph	2.25
	Carolina Power and Light Company.....	7.05
8.	Dr. C. A. Shore, stamps for Antitoxin circular.....	30.00
14.	Miss Daisy B. Allen, Chemist, one-half January salary.....	45.00
15.	Sherwood Brockwell, repairing neostyle.....	.50
22.	Capital City Telephone Company, October, November, December and January.....	16.15
31.	Dr. C. A. Shore, Director, January salary.....	208.33
	Dr. C. A. Shore, Director, money advanced, as per vouchers attached	16.16
	Miss Daisy B. Allen, Chemist, one-half January salary.....	45.00
	Miss Ethel Waitt, stenographer, January salary.....	40.00
	J. W. Kellogg, Assistant, January salary.....	125.00
	C. F. Kirkpatrick, Assistant, January salary.....	60.00
	Fred, Morgan, janitor	15.00
	Annie Holloway, 39 hours' work at 10 cents.....	3.90
Feb. 1.	Southern Express Company, January account.....	26.95
2.	Mrs. W. J. Crews, mailing circulars.....	6.00
3.	Postal Telegraph Cable Company, January account.....	2.13
	Johnson & Johnson, ice.....	1.00
7.	Thos. H. Briggs & Sons, January account.....	2.60
9.	Carolina Power and Light Company, January account.....	3.60
12.	North Carolina Experiment Station, 2 guinea pigs.....	1.50
	Journal of Infectious Diseases, Vol. 7, 1910 subscription...	5.10
	Dobbin-Ferrall Company, linoleum, etc.....	35.13
	Powell & Powell, wood and coal.....	14.35
	N. Wheeling Glass Company, 1 crate, 50 cartons.....	5.50
	Standard Gas and Electric Company, 5 pipes.....	12.85
	Journal of Experimental Medicine, Vol. 12, 1910.....	5.00
	G. E. Stechert & Co., Journal of Hygiene.....	5.50
	Eimer & Amend, Laboratory supplies.....	67.97
	American Journal of Public Hygiene.....	1.50
	Capital City Telephone Company, rent of No. 358.....	3.50
	W. H. King Drug Company, 1 pint ammonia.....	1.00
	King-Crowell Drug Company, Laboratory supplies.....	23.65
18.	Hart-Ward Hardware Company, asbestos.....	2.90
28.	Dr. C. A. Shore, Director, February salary.....	208.33
	Miss Daisy B. Allen, Chemist, February salary.....	90.00
	J. W. Kellogg, Assistant, February salary.....	125.00

Feb. 28.	C. F. Kirkpatrick, Assistant, February salary.....	\$60.00
	Dr. C. A. Shore, Director, cash items, as per attached vouchers	6.01
	Fred. Morgan, janitor, February wages.....	15.00
	Miss Ethel Waitt, stenographer, February salary.....	40.00
	Lorena Hollman, 36 hours' labor.....	3.60
	American Cork Company, corks.....	5.00
Mar. 4.	Mrs. F. A. Woodard, December, January and February rent, Carolina Power and Light Company, February statement...	60.00
	Capital City Telephone Company, rent No. 358, and long dis- tance messages	3.24
	Powell & Powell, coal and wood.....	4.50
	Western Union Telegraph Company, February statement...	11.75
	Postal Telegraph Cable Company, February statement.....	1.63
	Standard Gas and Electric Company, February statement..	1.35
	7. Alfred Williams & Co., office supplies.....	12.00
	Southern Express Company, February statement.....	1.35
	11. Johnson & Johnson Company, ice.....	22.85
	14. J. E. Mitchell, carpentry work.....	1.00
	15. Thos. H. Briggs & Sons, brooms, brushes, etc.....	5.00
	American Cork Company, corks.....	2.40
	Raleigh Insurance and Realty Company, premium on policy No. 3144456	2.88
	16. Carolina Electrical Company, merchandise.....	10.50
31.	Loreta Hollman, 42 hours' labor.....	20.62
	Fred. Morgan, janitor, March salary.....	4.20
	Miss Ethel Waitt, stenographer, March salary.....	15.00
	C. F. Kirkpatrick, assistant, March salary.....	40.00
	Miss Daisy Allen, Chemist, March salary.....	75.00
	J. W. Kellogg, Assistant, March salary	90.00
	C. A. Shore, Director, March salary.....	125.00
	C. A. Shore, Director, cash items in March.....	208.33
Apr. 2.	Johnson & Johnson, ice, March statement.....	16.40
	Len H. Adams, hay.....	2.00
	Southern Express Company, March account.....	2.19
	5. Henry T. Hicks Company, water.....	30.55
	Western Union Telegraph Company, March account.....	2.50
	E. M. Uzzell & Co., stamped envelopes.....	1.00
	11. Alfred Williams & Co., office supplies.....	53.60
	21. Postal Telegraph Cable Company, March account.....	1.50
	30. J. W. Kellogg, Assistant, April salary.....	3.70
	Miss Daisy B. Allen, Chemist, April salary.....	125.00
	C. F. Kirkpatrick, Assistant, April salary.....	90.00
	Miss Ethel Waitt, stenographer, April salary.....	75.00
	J. E. Mitchell, carpentry work.....	40.00
	Fred. Morgan, janitor, April wages.....	28.80
	Lureta Holloway, 41 hours' labor.....	20.00
	C. A. Shore, Director, April salary.....	4.10
	C. A. Shore, Director, cash items, April.....	208.33
	Carolina Power and Light Company, March account.....	23.59
	Standard Gas and Electric Company, March account.....	5.10
		11.00

Apr. 30.	Powell & Powell, 1 ton nut coal.....	\$9.20
	Dr. S. H. Crocker, autopsy.....	25.00
	Arthur H. Thomas Company, March statement.....	26.55
	H. M. Alexander & Co., antirabic cords.....	50.00
	Capital City Telephone Company, March account.....	4.50
	Eimer & Amend, dishes.....	9.45
	Jno. W. Coffey, carpentry work.....	29.85
May 6.	Southern Express Company, April statement.....	27.65
7.	Dobbin-Ferrall Company, April statement.....	3.25
	W. H. King Drug Company, April account.....	6.85
	J. R. Ferrall & Co., cabbage for animals.....	10.53
	Carolina Power and Light Company, April account.....	4.05
	Capital City Telephone Company, 1 year's rent, No. 358, and April long distance messages.....	42.74
	Standard Gas and Electric Company, gas in April.....	16.12
	Johnson & Johnson, ice, April statement.....	3.00
	Postal Telegraph Cable Company, April account.....	7.33
9.	Alfred Williams & Co., office supplies.....	12.50
11.	Weathers & Perry, 1 shade.....	1.50
	Thos. H. Briggs & Sons, sundries for Laboratory.....	1.24
31.	Dr. C. A. Shore, Director, May salary.....	208.33
	Dr. C. A. Shore, cash items in May.....	32.62
	W. J. Kellogg, Assistant, May salary.....	125.00
	Miss Daisy B. Allen, May salary.....	90.00
	C. F. Kirkpatrick, Assistant, May salary.....	75.00
	Fred. Morgan, janitor, May wages.....	20.00
	Lureta Holloway, 52 hours' labor.....	5.20
	W. A. Shaw, salary, May 9th-31st, inclusive, advanced to Rockefeller Commission (funds had not been received)...	44.51
	Arthur H. Thomas Company, casseroles and filter paper....	7.98
	Whitall Tatum Company, sputum jars.....	10.05
	Miss Ethel Waitt, stenographer, May salary.....	40.00
June 1.	Southern Express Company, May statement.....	34.15
3.	Johnson & Johnson, ice.....	3.00
7.	Carolina Power and Light Company, May statement.....	2.94
17.	Farmer-Cole Plumbing Company, invoice, May 10th.....	2.15
18.	Antique Furniture Company, invoice, June 17th.....	21.00
23.	Improved Mailing Case Company, invoice, June 10th.....	39.68
26.	Whitall Tatum Company, invoice, May 19th.....	43.05
27.	Standard Gas and Electric Company, invoice, May 23d.....	12.75
	Boylan Pearce Company, invoice, June 1st.....	25.00
	Henry T. Hicks Company, invoice, June 1st.....	1.00
	W. and L. E. Gurley, invoice, May 27th.....	2.80
	Postal Telegraph Cable Company, invoice, May 12th-31st...	4.19
	Arthur H. Thomas Company, invoice, May 31st.....	49.95
	J. R. Ferrall & Co., invoice, June 1st.....	9.23
	Ernst Leitz, invoice, January 5th, less lost lens.....	16.46
	D. Van Nostrand Company, invoice, June 17th.....	10.00
28.	Dr. C. A. Shore, stamps.....	10.00
30.	Dr. C. A. Shore, Director, June salary.....	208.33

June 30.	Dr. C. A. Shore, amount of attached vouchers.....	\$23.57
	Miss Daisy B. Allen, Chemist, June salary.....	90.00
	J. W. Kellogg, Assistant, June salary.....	125.00
	Miss Ethel Waitt, stenographer, June salary.....	40.00
	C. F. Kirkpatrick, Assistant, June salary.....	75.00
	Fred. Morgan, janitor, June wages.....	20.00
	Annie Holloway, 40 hours' labor.....	4.00
July	1. Johnson & Johnson Company, ice.....	4.00
	2. Southern Express Company, June account.....	25.70
	6. L. A. Emory, 3 tables.....	10.00
	7. Standard Gas and Electric Company, June account, gas....	13.12
	Carolina Power and Light Company, lights.....	6.00
	J. R. Ferrall & Co., June account.....	9.25
	Eimer & Amend, Laboratory supplies.....	23.30
	Stamps	50.00
	Hobby Bros. & Banks, 4 stools.....	3.00
13.	Thos. H. Briggs & Sons, June account.....	2.00
	American Cork Company	4.75
18.	W. J. Kellogg, expenses, inspection Buffalo Lithia Springs..	7.75
20.	J. J. Jenkins, Shff. comm.....	.75
25.	Postal Telegraph Cable Company, June statement.....	4.66
26.	Busbee & Busbee, premium on bond.....	20.00
	W. H. King Drug Company, corks.....	1.50
	J. D. Riggan Company, 6 baskets.....	1.65
	J. Schwartz, account to 1st inst.....	15.00
	Arthur H. Thomas Company, to June 30th.....	101.47
	Mrs. F. A. Woodard, rent, March, April, May and June....	100.00
	Dr. C. A. Shore, Director, July salary.....	208.33
	Dr. C. A. Shore, amount attached vouchers.....	5.95
	Miss Daisy Allen, Chemist, July salary.....	100.00
	J. W. Kellogg, Assistant, July salary.....	125.00
	C. F. Kirkpatrick, Assistant, July salary.....	75.00
	Miss Ethel Waitt, stenographer, July salary.....	40.00
	Miss Sophie D. Busbee, 12 days' work at \$2 per day.....	24.00
	Fred. Morgan, janitor, July wages.....	20.00
	Annie Holloway, 59 hours' work.....	5.90
	Thos. C. Boushall, 6 days at \$1 per day.....	6.00
Aug.	1. Southern Express Company, July statement.....	35.25
	2. Farmer-Cole Plumbing Company, July statement.....	1.25
	3. W. B. Mann & Co., July statement.....	3.00
	5. Johnson & Johnson, July statement, ice.....	6.00
	Standard Gas and Electric Company, to July 22d.....	12.62
	Carolina Power and Light Company, July account.....	3.63
	Dobbin-Ferrall Company, July statement.....	6.75
	W. H. King Drug Company, chemicals.....	9.15
	Western Union Telegraph Company, July statement.....	2.08
	Postal Telegraph Cable Company, July statement.....	2.59
	6. Alfred Williams & Co., July account.....	3.55
	8. Stamped envelopes	64.32
10.	Thos. H. Briggs & Sons, July statement.....	1.60
13.	R. A. Brown, Agent, free withdrawal of alcohol.....	5.00

Aug. 13.	N. W. Wallace, sheriff, commission.....	\$3.45
15.	Miss Daisy B. Allen, Chemist, one-half August salary.....	50.00
19.	J. R. Ferrall & Co., July statement.....	7.30
	Arthur H. Thomas Company, invoice, July 30th.....	13.73
22.	S. B. Tanner, refund for analysis made through error.....	5.00
31.	Fred. Morgan, janitor, August wages.....	20.00
Sept. 1.	Dr. C. A. Shore, Director, August salary.....	208.33
	J. W. Kellogg, Assistant, August salary.....	125.00
	Miss Daisy B. Allen, Chemist, one-half August salary.....	50.00
	C. F. Kirkpatrick, Assistant, August salary.....	75.00
	T. C. Boushall, August salary.....	30.00
	F. W. Temple, Jr., August salary.....	40.00
	C. A. Shore, Director, amount attached vouchers.....	14.80
	Annie Holloway, 39 hours' labor.....	3.90
	Southern Express Company, invoice, August 31st.....	35.60
2.	Farmer-Cole Plumbing Company, 1 flush ball.....	1.00
	Arthur H. Thomas Company, invoice, August 18, 23, 25....	45.64
	Postal Telegraph Cable Company, to August 30th.....	3.01
	R. L. Polk, medical register.....	6.00
	Carolina Power and Light Company, invoice to August 29th,	3.60
	Standard Gas and Electric Company, invoice to August 23d,	16.15
	Len H. Adams, to August 17th.....	3.69
8.	Johnson & Johnson Company, ice.....	4.00
12.	Dr. C. A. Shore, traveling expenses and annual dues A. P. H. Association	99.40
16.	Tucker Building Pharmacy, invoice, September 16th..	2.00
30.	Dr. C. A. Shore, Director, September salary.....	208.33
	J. W. Kellogg, Assistant, September salary.....	125.00
	Dr. C. A. Shore, Director, amount attached receipts.....	5.78
	Miss Daisy B. Allen, Chemist, September salary.....	100.00
	C. F. Kirkpatrick, Assistant, September salary.....	75.00
	F. W. Temple, September salary.....	50.00
	T. C. Boushall, September salary.....	30.00
	Fred. Morgan, janitor, September wages.....	20.00
	Annie Holloway, 39 hours' labor.....	3.90
Oct. 4.	J. C. Brantley, lithia water.....	.95
8.	Carolina Power and Light Company, September statement..	3.00
12.	Standard Gas and Electric Company.....	14.87
	L. H. Adams, feed.....	4.23
	W. B. Mann, to October 1st.....	1.00
	Southern Express Company, to October 1st.....	29.35
	H. T. Hicks & Co., Buckhorn water.....	.35
	Boylan-Pearce Company, to October 1st.....	6.00
13.	Alfred Williams & Co., office supplies to 1st inst.....	6.85
15.	Fred. Morgan, janitor, one-half October wages.....	10.00
26.	Postal Cable Company, to September 30th.....	4.52
28.	Stamps	10.00
31.	C. A. Shore, Director, October salary.....	208.33
	C. A. Shore, Director, amount attached vouchers.....	5.62
	J. W. Kellogg, Assistant, October salary.....	125.00
	Miss Daisy B. Allen, Chemist, October salary.....	100.00

Oct. 31.	F. W. Temple, stenographer, October salary.....	\$50.00
	T. C. Boushall, Assistant, October salary.....	30.00
	Fred. Morgan, janitor, one-half October wages.....	10.00
	A. B. Underwood, October salary.....	60.00
	Lureta Holloway, 39 hours' labor.....	3.90
	Protested check	41.23
Nov. 3.	Southern Express Company, invoice, November 3d.....	35.20
15.	Fred. Morgan, janitor, one-half November wages.....	10.00
18.	W. G. Briggs, Postmaster, stamped envelopes.....	21.44
	Thos. H. Briggs & Sons, invoice, October 31st.....	.95
	Alfred Williams & Co., invoice, November 1st.....	2.00
	W. H. King Drug Company, to November 4th.....	10.55
	J. R. Ferrall & Co., invoice, October and November.....	20.55
	Carolina Power and Light Company, October account.....	6.75
	Len H. Adams, invoice, November 1st.....	3.93
	Standard Gas and Electric Company, invoice, October 23d..	13.00
	Eimer & Amend, invoice, September 30th.....	26.60
	Postal Telegraph Cable Company, to October 31st.....	3.46
	Underwood Typewriter Company, less commission and allow- ance for Remington machine, \$37.47.....	65.03
	Johnson & Johnson Company, September and October, ice..	8.00
19.	Excelsior Steam Laundry, invoice, November 17th.....	4.50
	Arthur H. Thomas Company, invoice, November 1st.....	125.52
21.	Hobby Bros. & Banks, 2 stools.....	1.50
Dec. 1.	Dr. C. A. Shore, November salary.....	208.33
	Dr. C. A. Shore, amount attached vouchers.....	4.17
	J. W. Kellogg, November salary.....	125.00
	Miss Daisy B. Allen, November salary.....	100.00
	A. B. Greenwood, November salary.....	60.00
	F. W. Temple, November salary.....	50.00
	T. C. Boushall, November salary.....	30.00
	Fred. Morgan, one-half November wages.....	10.00
	Lurena Holloway, 43 hours' labor.....	4.30
	Citizens National Bank, to take up note due December 1st,	600.00
4.	Southern Express Company, November invoice.....	27.70
8.	Postal Telegraph Cable Company, to November 29th.....	2.00
	Powell & Powell, coal to December 1st.....	9.30
	Carolina Power & Light Company, November statement, \$6.90 less 45 per cent discount.....	3.80
	Len H. Adams, invoice, December 1st.....	6.86
	J. G. Ball & Co., invoice, November 30th.....	1.10
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	Cincinnati Bottlers' Supply Company, invoice, November 28th	2.50
	Western Union Telegraph Company, to November 25th.....	3.55
9.	Farmer-Cole Plumbing Company, invoice, December 1st....	2.28
14.	Fred. Morgan, janitor, one-half December wages.....	10.00
	W. C. Adkins, invoice, December 10th, repairing stove....	1.00

Dec. 15.	G. L. Vinson, unstopping sink.....	\$2.00	
	Mrs. F. A. Woodard, rent, August, September, October, November and December, 1910	100.00	
			<hr/>
Disbursements		\$18,327.81	
Overdraft, January 1, 1909.....		36.12	
Receipts		\$18,633.68	
Balance on hand, December 31, 1910.....		269.75	
			<hr/>
		\$18,633.68	\$18,633.68

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